92-8

DEPARTMENT OF ECOLOGY
TRIBAL AND LOCAL GOVERNMENT
ANALYTICAL LABORATORY NEEDS ASSESSMENT

1992-1993 BIENNIUM

By Richard Schroeder

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Environmental Investigations and Laboratory Services Program
Planning and Program Support Section
Olympia, Washington 98504-7710

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INTRODUCTION

The Puget Sound Water Quality Authority (PSWQA) is responsible for developing and overseeing the implementation of a comprehensive management plan for Puget Sound and its related waterways. The 1991 Puget Sound Water Quality Management Plan (PSWQMP) states, "The planning area defined by the Legislature in the Puget Sound Water Quality Act includes Puget Sound, south of Admiralty Inlet (including Hood Canal and Saratoga Passage); the waters north to the Canadian border, including portions of the Strait of Georgia; the Strait of Juan de Fuca, south of the Canadian border; and all the land draining into these waters."

There are 12 counties and 17 Indian tribes in the planning area. Many of the local and tribal government programs designed to protect Puget Sound depend on accurate and timely laboratory analyses to remedy the effects of contaminants, and prevent future contamination.

The Department of Ecology has prepared for the PSWQA a laboratory needs assessment that outlines the upcoming laboratory needs of Ecology programs as well as the short- and long-term needs, capacity, and data management of local and tribal governments. This assessment falls under Element L-2 of the 1991 PSWQMP.

METHODS

Ecology designed a laboratory needs questionnaire to query the local and tribal governments about their environmental laboratory needs. They were asked how and if their laboratory needs were being met, (e.g., did they have adequate agency laboratory services or, did they utilize private contract laboratories or other governmental laboratories to fill their lab needs?) They were asked about their data management methods and how their data were used. They were also asked to list any impediments they face in the area of laboratory services. A copy of the questionnaire used is included in Appendix A.

Questionnaires were sent to the 12 counties, 17 Indian Tribes, the Northwest Indian Fisheries Commission (NWIFC), the Point-No-Point Treaty Council (PNPTC), and six cities in the PSWQA's planning area.

Initially there was a poor response to Ecology's request for information on the local and tribal governments' environmental laboratory needs. To solicit a better response, Ecology sent a follow-up mailing and made telephone calls to the governments which had failed to return the completed questionnaire. This approach was quite successful. The majority of the completed questionnaires were returned after the contact person in the government being queried received the follow-up letter and telephone call requesting the information. A listing of the governments contacted and their response rate to the laboratory needs questionnaire can be found in Table 1: "Governments Queried and % Response."

Table 1. Governments Queried and % Response

Government								
City	Yes	No	County	Yes	No	Tribal	Yes	No
Bellevue	✓		Clallam	✓		Hoh	✓	
Bellingham	✓		Island	✓		Jamestown Klallam	✓	
Everett		✓	Jefferson	✓		Lower Elwha Klallam		✓
Olympia		✓	King	✓		Lummi		✓
Seattle		✓	Kitsap	✓		Makah	✓	
Tacoma		✓	Mason	✓		Muckleshoot	✓	
			Pierce		✓	Nisqually		✓
			San Juan	✓		Nooksack		✓
			Skagit	✓		Port Gamble Klallam		✓
			Snohomish	✓		Puyallup	✓	
			Thurston		✓	Quilente	✓	
			Whatcom		✓	Sauk-Suiattle		✓
						Skagit System Coop	✓	
						Skokomish	✓	
						Squaxin Island	✓	
						Stillaguamish	✓	
						Suquamish	✓	
						Swinomish	✓	
						Tulalip	✓	
						Upper Skagit	✓	
						Northwest Indian Fisheries Commission	✓	
						Point-No-Point Treaty Council	✓	
33% Response			75% Response			80% Response		

Some of the people who responded to the questionnaire were unfamiliar with laboratory terminology, so the Planning and Program Support Section of the Environmental Investigations and Laboratory Services Program was made available to consult with local and tribal representatives to clarify and answer any questions about the laboratory needs assessment process. Most of the questions were along the lines of "Why should I do this and how will my government benefit from providing this information?" We explained to them that this was a simple fact-finding exercise to help the PSWQA identify problems local and tribal governments may have in complying with state and federally imposed environmental monitoring requirements.

FINDINGS

A summary and compilation of the responses to each question is provided as Appendix B.

The completed questionnaires returned by the local and tribal government are presented in Appendix C.

In general, all of the local and tribal governments which responded to the laboratory needs questionnaire expressed similar needs and concerns. Some of the major points expressed include:

- Those governments which have laboratories feel their laboratory is generally not able to meet their environmental analytical needs. This is a budget problem. They just do not have adequate funding to provide the personnel and laboratory facilities required to do an adequate job.

- The local and tribal governments utilize contract laboratories for the services they are not able to provide themselves. This utilization varies from 0 to 100 percent. Some of the governments do all their work in-house, while the majority do not have a laboratory and must send 100 percent of their work to contract laboratories.

- The biggest concern expressed by most of the governments was the lack of contract laboratory services outside of the Seattle-Bellingham metropolitan areas. They feel this is a real impediment to their environmental monitoring efforts. It is difficult to maintain sample holding times while having to transport samples long distances with limited staff and resources.

- Most of the local and tribal governments, especially the tribes, would like to be able to use state and federal laboratories for complex analyses they are not able to perform in-house. They would like to see a program instituted where they could use the Ecology laboratory on a contract basis for their environmental analytical needs.

- The local and tribal governments feel that occasionally demands are made on them with no thought as to their ability to meet the testing requirements being imposed on them.

- The local and tribal governments feel Ecology has the environmental monitoring expertise they need and cannot afford. They would like to be able to rely on Ecology as a consultant for planning and implementing their required monitoring programs.

Overall the laboratory needs assessment project was welcomed by the local and tribal governments. They recognize their inability to adequately meet their environmental monitoring responsibilities in certain areas. They would like to see a spirit of cooperation among all the governmental agencies to accomplish a common goal, that of preserving the Puget Sound environment.

APPENDIX A

Questionnaire Submitted to Tribal and Local Governments

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering the questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

NAME, TITLE, ADDRESS, AND PHONE # OF PERSON COMPLETING THE QUESTIONNAIRE:

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies to the field people, such as, sample containers, chemicals, and analysis request forms? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity; number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organizations laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of the work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Describe how you propose to meet future demands for analytical services; establish laboratory, additional staff, utilize outside laboratories,etc.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data?

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

What can, or should, be done to remove these impediments?

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM _____

		FY92	FY93
PHYSICAL CHEMISTRY	pH		
	TURBIDITY		
	SP.CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS		
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM		
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	HH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

APPENDIX B

Summary of Responses to Appendix A Questionnaire

APPENDIX B

Following are the questions included in the laboratory needs questionnaire along with a summary of the responses received.

Only those respondents with laboratories were asked to complete Sections I and II. All were asked to complete Sections III through VI.

I. SUMMARY OF CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Clallam, Kitsap, and Mason Counties provide limited environmental laboratory services to municipalities within their respective counties. The other counties utilize contract laboratories for their lab needs.

The two cities that responded, Bellevue and Bellingham, provide limited laboratory services for their cities, usually wastewater analyses for NPDES permits and drinking water monitoring.

The Makah, Suquamish, and Tulalip Indian tribes, along with the Northwest Indian Fisheries Commission, provide some environmental laboratory support for the tribes, usually concerning water quality and NPDES requirements at the tribal fish hatcheries.

Most of the local and tribal governments utilize contract labs to meet their environmental laboratory needs. They also use state and federal laboratories on a limited basis. The local governments would like to be able to rely more on state and federal expertise but feel the state and federal governments are usually not very responsive to their needs.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

None of the local and tribal laboratories offer courier service to the laboratory users. The customer is responsible for the delivery of the samples to the laboratory. This delivery is either via field personnel or commercial carrier.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

The local and tribal laboratories that provide environmental laboratory services for their governments also provide the sample containers, chemicals, and analysis request forms required by the field personnel.

What percentage of your organization's laboratory work is completed in house?

This varied from 0 to 100 percent.

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

All the respondents use outside laboratories as a QA/QC tool to assure the validity of their laboratory's analyses. They also use contract laboratories for analyses that require specialized equipment or expertise their laboratory does not have.

What percentage of your work is contracted out?

This varied from 0 to 100 percent.

What types of work do you usually contract out?

Budget constraints have caused most of the laboratories to have limited resources, so any work that is beyond their laboratory capability is contracted out. These are usually organic and metals analyses that require expensive, specialized instrumentation.

Please describe your procedure for utilizing outside laboratory services.

The work is sent to a contract laboratory on a Fee for Service basis.

The work usually goes to a Department of Ecology (Ecology) certified environmental laboratory that is the low bidder for the work the local or tribal laboratory needs done.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

Kitsap County performs some wastewater treatment plant laboratory testing for other county municipalities and the Northwest Indian Fisheries Commission performs fish hatchery and water quality laboratory testing for the Indian tribes.

How do you charge your clients for the cost of an analysis?

Most of the local and tribal laboratories do not do work for clients. The few that do simply bill the client for the work which has been done.

Describe your laboratory sample tracking system.

The laboratories all use a similar sample tracking system. This consists of the field personnel recording the sample location, type, time, date, number of containers, preservation if any, testing parameters, and a laboratory log number in a log book and on a sample tag attached to the sample.

When the samples arrive at the laboratory, this information is entered into the laboratory's sample tracking and data record keeping system. This system varies from hand entries in a log book, to computerized record keeping systems.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

The laboratories seldom use documented chain of custody procedures. They all feel that sample integrity is of primary importance, but do not feel a real need to protect the sample from tampering by unauthorized personnel.

Please provide a copy of your laboratory holding times, target turnaround times, and laboratory price list.

Kitsap County and the Northwest Indian Fisheries Commission are the only ones who provided this information. It is included in their response in Appendix B.

II. SUMMARY OF CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

The respondents feel they do not have adequate space, equipment, or capacity. With increasing demands on water resources from development, etc., and the resultant monitoring requirements, there is a need for increased laboratory capacity.

Please describe your laboratory capacity: number of staff, number of analyses, maximum number of analyses your laboratory can perform, etc.

These responses varied greatly, however, most everyone seemed to feel they are not able to adequately address water quality concerns because of budgetary restrictions which limit their laboratory capacity.

III. SUMMARY OF MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

All the respondents without their own laboratories use contract laboratories for their analytical needs.

Now that Ecology is certifying environmental laboratories, Ecology certified laboratories are used whenever possible.

IV. SUMMARY OF FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

The respondents feel a definite need to establish or expand their own laboratories but because of funding constraints they feel this is probably an unrealistic expectation.

Most respondents feel they cannot meet current laboratory needs and are certain they will not be able to meet future requirements.

Describe how you propose to meet future demands for analytical services--establish laboratory, additional staff, utilize outside laboratories, etc.

This is dependent on funding. Without adequate funding the respondents will not be able to meet future demands for laboratory services.

V. SUMMARY OF DATA MANAGEMENT

Please describe your analytical data management system.

There is a wide range of sophistication in data management. It ranges from keeping hand written log books to state of the art computerized database systems.

This is again a result of funding. Some of the respondents have the funds to adequately address data management, others do the best they can with what they have.

Where and how is your data stored?

Data storage ranges from archiving handwritten log books to hard disk with floppy diskette backup that are archived in a secure storage area.

How is your data used?

The data which are collected have a wide variety of uses. They are used for land use planning and development, NPDES permits, landfill monitoring, ground water and drinking water quality monitoring, and ambient environmental monitoring.

How is your data archived?

The respondents archive data by storing the data either in logbook form or on floppy diskettes in a secure storage space.

Who do you share your data with?

The respondents share their data with whoever wants access to it. This is usually other governmental agencies like the EPA, Public Health Service, Bureau of Indian Affairs, or the Department of Ecology.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

The only difficulty experienced in storing, analyzing or accessing data is manpower and time. Data handling is often delayed due to lack of staff and/or time.

VI. SUMMARY OF IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

The respondents feel a lack of contract laboratories outside the Seattle-Bellingham metropolitan areas is the biggest impediment to receiving laboratory services. It is difficult to maintain holding times while having to transport samples long distances with limited staff and resources.

What can or should be done to remove these impediments?

A number of the respondents feel it would be nice to have Ecology's laboratory available for specialized analyses they are unable to do in house.

They would also like Ecology personnel to be available for technical advice on environmental program planning and implementation. They would like to be able to solicit advice on survey planning, sampling technique, laboratory analyses, and data interpretation.

APPENDIX C

PART I

Tribal Responses to Appendix A Questionnaire

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Jim Hatten Hoh Tribe
TITLE : TFW Biologist
ADDRESS : Rt 80, Box 917
Forks, WA 98331

PHONE # : 374-6582

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Ø

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services? Concerning water quality - we don't. We've asked DOE to sample water before but nothing happens.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? DOE needs to be more responsive towards requests for water analysis

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Attempt to utilize outside staff.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

P.C. / Rbase, 123, etc

How is your data used?

Data is used to evaluate instream + surrounding conditions.

How is your data archived?

filing cabinets + floppy disks.

Who do you share your data with?

Whoever wants it.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Yes - our biggest problem is lack of experience with software.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

DOE is a huge bureaucracy. You need an office in Forks to service the Westside Communities.

What can, or should, be done to remove these impediments?

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM _____

		FY92	FY93
PHYSICAL CHEMISTRY	pH		
	TURBIDITY		
	SP CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS		
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM		
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING OUESTIONNAIRE

NAME : Ann Seiter
TITLE : Natural Resources Director
ADDRESS : Jamestown Klallum Tribe
305 Old Blyn Hwy
Sequim WA. 98382-9608
PHONE # : 683-1001

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

NA

Received
1145
7/9/91
RHT

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Use State, County & Metro lab
also private labs
Primary needs are shellfish monitoring PSP & coliform
& water (bacterial)

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? As long as County & State labs can keep up - maybe not.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

none at Tribal level.
possibly at Northwest Indian Fish Commission

V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

We have difficulty getting samples to the labs in Seattle in a timely manner now that Greyhound Service has been reduced.

What can, or should, be done to remove these impediments?

MAKAH TRIBAL COUNCIL

P.O. BOX 115 NEAH BAY, WA 98357

DATE 9-11-91

TO: Dick Schroeder - Ecology

Sorry this took so Long

FROM: Doug Sternback

Wastewater operator

NUMBER OF PAGES _____

IF TRANSMITTAL IS UNREADABLE,

CALL ROBIN 206-645-2201.

FAX NUMBER 206-645-2033

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Doug Sternback
TITLE : Waste Water Operator
ADDRESS : P.O. BOX 115
Neah Bay, Wa. 98357
PHONE # : 206 645 - 2205 - ext. 407

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

I perform B.O.D.s, T.S.S., S.S., Fecal Coliform, for our Waste water & for A water Quality Survey being done on our Rivers. (Also D.O. Probe & P.H. Probe)

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?
By the person needing testing done.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.
yes, I supply Sample Container & D.O. probe & portable pH. meter.

Describe your laboratory sample tracking system.
I get my Samples by scoop/Grab method & Composite Samples for permit test's (I have 1 sampler & only take Composit Samples for Eff.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.
I collect all samples of mine & its written done in a daily log.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? No, need more room

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc. 1 person me performing tests, Daily perform D.O. winkler or meter method, Once a week B.O.D, T.S.S. Also B.O.D., T.S.S., & Fecal Coliform for Water Quality Survey, & in future will be performing B.O.D., T.S.S., & Coliform for Old McKal Air force Base Treatment facilities

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house? All, except for Water Plant Bacterlogical Samples which I would like to perform if it was possible.

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity? No, but I would like to have a source to Confirm our testing.

What percentage of your work is contracted out? none

What types of work do you usually contract out? none

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.
none, yet. If I start performing permit testing for Makah Air force base, there would be a $30.00 a week Charge.

How do you charge your clients for the cost of an analysis? based on what the tribe was being charged to get tests done in forks before I come here.

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc. plan to construct A Larger Lab. Sometime were our Water Plant & Sewer Analysis can be performed.

V. DATA MANAGEMENT

Please describe your analytical data management system.
All records are kept on file & stored after a one year period & results are also graphed for observation.

Where and how is your data stored?
In the Lab. in files. Also monthly reports are sent to I.H.S. in Port Angeles.

How is your data used?
Right now were doing a servey on sewer system & tests results are being used to determin if new system needs to be put in.

How is your data archived?
In files.

Who do you share your data with?
I.H.S., Wash. State Dept of Ecology, E.P.A.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face? No, If any difficulty analyzing I call me fellow operator's in Clallam Bay for advice.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?
It would be nice to have someone to call Who can give tech. advice & no where to send samples to test our reliabilitie & answer question's in genral.

What can, or should, be done to remove these impediments? ?

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM *Wastewater + Water*

Category	Parameter	FY92	FY93
PHYSICAL CHEMISTRY	pH	✓	
	TURBIDITY	✓	
	SP.CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)	✓	
	TS		
	TSS	✓	
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE	✓	
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS	✓	
	TOTAL		

Category	Parameter	FY92	FY93
DEMAND	BOD	✓	
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL & GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM	✓	
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

Category	Parameter	FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)	✓	
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES	✓	
	RAT		
	TOTAL		
	TOTAL SAMPLES	10	

NEEDS ASSESSMENT QUESTIONNAIRE

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If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE Muckleshoot Tribe

NAME : David Beedle
TITLE : Watershed Management Coordinator
ADDRESS : 39015 172nd Ave SE, Auburn WA 98002

PHONE # : 206 - 939 - 3311

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

See Section III

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

We contract sample analysis with Metro. The contract is for a specific number of sites and samples

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? NO.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Unknown at this time.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Unknown at this time.

What can, or should, be done to remove these impediments?

V. DATA MANAGEMENT

Please describe your analytical data management system.

The Data management system is just starting to be developed. The system will most likely use R-Base or D-Base type of data management program

Where and how is your data stored?

How is your data used?

data will be used to study agricultural BMP's on water quality

How is your data archived?

Hard copies and computer diskette

Who do you share your data with?

Ecology, Metro, King County Conservation District, SCS, and WSU coop.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM Nooksack Cr. BMP study

		FY92	FY93
PHYSICAL CHEMISTRY	pH	6	
	TURBIDITY	6	
	SP.CONDUCTANCE	6	
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS	6	
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA	6	
	NITRATE	6	
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	6	
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM	6	
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD RHEPOXYNIUS		
	FRESHWATER AMPHIPOD HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
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	PAH ONLY		
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	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

Puyallup Tribe of Indians

September 18, 1991

Dick Schroeder
Planning and Program Support Section
Washington State Dept. of Ecology
7171 Cleanwater Lane, Bldg. 8, LH-14
Olympia, WA 98504-6814

Dear Mr. Schroeder:

Please find enclosed the addendum to your tribal laboratory needs assessment questionnaire which I have referenced in the questionnaire itself. I inadvertently neglected to include it with the completed questionnaire. I apologize for the inconvenience.

Sincerely,

Erin E. Hoiland

Erin E. Hoiland
Environmental Dept.

2002 East 28th Street • Tacoma, Washington 98404 • 206/597-6200

PUYALLUP TRIBAL WATER QUALITY MANAGEMENT PROGRAM

The Puyallup Tribal Water Quality Management Program (PTWQMP) will be a phased comprehensive program applicable to all lands and activities which may affect surface or groundwater quality on the reservation. The area of jurisdiction of PTWQMP encompasses not only the reservation itself, but off-reservation lands as provided for by the Federal Clean Water Act of 1987 (33 U.S.C. 1251).

PTWQP is currently in its infancy. The initial phase of the development of the is program included the adoption of Washington State Water Quality Standards as Tribal law and the addition of a water quality specialist to the Puyallup Tribal staff. The second phase will include implementation of water/sediment quality monitoring, the formation of a data base and the review/revision of existing standards. The last phase of the development of this program will involve the expansion of field analysis to laboratory analysis, as the Tribe has future plans for the construction of an accredited water analysis laboratory to be built in conjunction with a new hatchery facility.

PTWQMP is presently entering its second stage of development. The immediate plan of action is to first, review and revise the existing Tribal water quality standards. Tentatively speaking, the approach is to adopt the newly revised Washington State Standards of 1991 while setting additional criteria to fully protect reservation waters and their uses. In conjunction with water quality standard revision, the Environmental Department of the Tribe plans to establish and fully implement an on-going self-monitoring system for the assessment of reservation water quality. To date, the Environmental Department of the Tribe has enacted a computer data entry system for handling water quality data; begun purchasing the necessary field equipment for water analysis as well as researching and selecting appropriate sampling sites.

Future plans, as described above, include the construction of a fully accredited water quality analysis laboratory to be built in-house of the proposed new hatchery facility in order to expand PTWQMP's monitoring capabilities. Additionally, PTWQMP plans to establish stricter enforcement of the water quality standards and to play a more active role in the issue of wastewater discharge/outfall permits.

In summary, the Puyalup Tribe of Indians currently administers environmental and habitat protection programs and desires to further its efforts by implementing a full-scale, self-monitoring system for reservation waters/sediments in addition to increasing enforcement of new stricter water quality standards. The efforts of the Tribe serve not only their own interests but also that of the State and other user groups that share this common resource. We do not inherit the earth from our ancestors, but rather we borrow it from our children. PTWQMP is a major step towards returning it in the same or better condition as which we borrowed it.

NEEDS ASSESSMENT QUESTIONNAIRE

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If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : ERIN HOILAND
TITLE : WATER QUALITY TECHNICIAN
ADDRESS : PUYALLUP TRIBE OF INDIANS, ENVIRONMENTAL DEPARTMENT
2002 EAST 28TH STREET
TACOMA, WASHINGTON 98404
PHONE # : (206) 597-6200

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

THE PUYALLUP TRIBE DOES NOT HAVE AN IN-HOUSE LABORATORY

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

N/A

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

N/A

Describe your laboratory sample tracking system.

N/A

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

N/A

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

N/A

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? N/A

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

N/A

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

APPROXIMATELY 50%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity? YES. OUTSIDE LABORATORIES WILL BE CONSULTED TO PERFORM WORK BEYOND OUR CURRENT CAPABILITIES.

What percentage of your work is contracted out?

AT THIS POINT IN TIME IT IS SPECULATED THAT APPROXIMATELY 1/2 OF OUR WORK WILL BE CONTRACTED.

What types of work do you usually contract out?

WORK TO BE CONTRACTED OUT WILL CONSIST OF LABORATORY ANALYSES (I.E. ANALYSES WHICH ARE NOT SUBJECT TO BEING CONDUCTED IN THE FIELD) AND SOME CONFIRMATION TESTING.

Please describe your procedure for utilizing outside laboratory services.

THE PUYALLUP TRIBE PLANS TO CONTRACT WITH A DOE ACCREDITED LAB ON AN ON-GOING, AS-NEEDED BASIS TO PERFORM THOSE ANALYSES WHICH THE TRIBE IS NOT PHYSICALLY SET UP TO PERFORM AS WELL AS CONFIRMATION TESTING OF KEY ANALYSES. AS TIME GOES ON AND MORE FUNDS BECOME AVAILABLE, THE TRIBE HOPES TO REDUCE THE USE OF OUTSIDE LABORATORY SERVICES.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

N/A

How do you charge your clients for the cost of an analysis?

N/A

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

SEE ATTACHED.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? YES. SEE ATTACHED.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

SEE ATTACHED.

V. DATA MANAGEMENT

Please describe your analytical data management system.

THE ENVIRONMENTAL DEPARTMENT OF THE PUYALLUP TRIBE HAS RECENTLY PURCHASED A COMPUTER WITH WHICH IT WILL USE TO INPUT, ANALYZE, AND STORE SAMPLING DATA. RAW DATA IS ENTERED INTO A DATA ENTRY FILE FOR EACH SAMPLING SITE BY A TECHNICIAN. ONCE ENTERED, THE DATA IS VIEWED, ANALYZED AND TRANSFERRED TO A STORAGE FILE BY A SUPERVISOR.

Where and how is your data stored?

ONCE PTWQMP IS IN FULL OPERATION, DATA WILL BE STORED IN TWO FORMS. THE FIRST BEING THE ORIGINAL DATA SHEETS/FIELD NOTEBOOKS ON WHICH THE DATA WAS RECORDED. THE SECOND WILL BE A DATA LOG FILE ON THE COMPUTER FOR EACH SITE.

How is your data used?

THE DATA WILL BE USED IN A MONITORING/QUALITY CONTROL CAPACITY OF THE PUYALLUP RIVER AND OTHER TRIBAL WATERS.

How is your data archived?

CURRENT DATA, AS DESCRIBED ABOVE, WILL BE STORED ON THE COMPUTER. ALL FILES WILL BE BACKED UP AND ARCHIVED ON DISKETTES.

Who do you share your data with?

OTHER CITY, COUNTY, STATE AND GOVERNMENTAL AGENCIES.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

THE PROBLEMS FACED ARE THE ABSENCE OF A LAB AND LIMITED STAFF.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

N/A

What can, or should, be done to remove these impediments?

N/A

010 ECOLOGY-EILS 08:43 09/05/91

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM Puyallup Tribe Environmental Dept.

		FY92	FY93
PHYSICAL CHEMISTRY	pH	✓	✓
	TURBIDITY	✓	✓
	SP CONDUCTANCE	✓	✓
	SALINITY		
	ALKALINITY	✓	✓
	ACIDITY	✓	✓
	HARDNESS	✓	✓
	SOLIDS (4)		
	TS		
	TSS		✓
	TOTAL		
ANIONS	CHLORIDE	✓	✓
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA	✓	✓
	NITRATE	✓	✓
	NITRITE	✓	✓
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	✓	✓
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		✓
	BOD 20		
	COD		✓
	TOC		
	TOTAL		
MISC.	O&G GREASE	✓	✓
	PHENOLICS	✓	✓
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM	✓	✓
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT	✓	✓
	METALS (6)	✓	✓
	ICP SCAN		
	MERCURY	✓	✓
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
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	BTEX/HALOGENATED		
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	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
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	% LIPIDS		
	TOTAL		
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	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

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PERSON COMPLETING QUESTIONNAIRE Quileute Tribe

NAME : CHRISTIAN MORGANROTH III
TITLE : VICE CHAIRMAN
ADDRESS : PO BOX 279
LA PUSH WA 98350

PHONE # (206)374-6163

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

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Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

N/A

How do you charge your clients for the cost of an analysis?

N/A

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

We send monthly domestic water samples to Clallam County Health Department for water bacteriological analysis. (in Port Angeles) Periodically we have PH, salinity, flouride, and iron levels checked.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Because of staffing and funding limitations we do not have any laboratory capacity in La Push.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We have no choice but to use outside laboratories.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Clallam County Health Department in Port Angeles.

Where and how is your data stored?

The Executive Director stores the data.

How is your data used?

Copies are sent to IHS and EPA when required.

How is your data archived?

Normal filing system.

Who do you share your data with?

IHS and EPA.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face? NO

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

We have no staff, equipment, laboratory, funding etc. to provide quality laboratory service in La Push.

What can, or should, be done to remove these impediments?

We need to keep utilizing outside laboratories.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM QUILEUTE TRIBE

		FY92	FY93
PHYSICAL CHEMISTRY	pH	X	X
	TURBIDITY	X	X
	SP.CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)	X	X
	TS		
	TSS		
	TOTAL		
ANIONS	CHLORIDE	X	X
	FLUORIDE	X	X
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	X	X
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM		
	ENTEROCOCCI		
	%KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METAL/SELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB	X	X
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE Skagit Systems Cooperative Tribe

NAME : LARRY WASSERMAN
TITLE : Environmental Services Director
ADDRESS : PO Box 368
La Conner, WA 98257

PHONE # : 206-466-7250

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services? Outside contracts

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc. All of above. For the immediate future, we will utilize outside service. We are investigating development of Tribal laboratory

V. DATA MANAGEMENT

Please describe your analytical data management system.

CURRENTLY DO NOT HAVE AN ANALYTICAL DATA MGM'T SYSTEM.

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

FUNDING - LONG TERM

What can, or should, be done to remove these impediments?

: PLEASE SEND COPY TO NWIFC AND REPORT TO THE ADDRESS BELOW.

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

✓ If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : PHILIP JORDI
TITLE : ENVIRONMENTAL PLANNER
ADDRESS : SKOKOMISH TRIBAL CENTER
N. 80 TRIBAL CENTER RD.
SHELTON, WA 98584
PHONE # : (206) 426-4232

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

EPA MANCHESTER LABORATORY - GROUND & SURFACE WATER TESTING FOR 1991.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? YES

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

HIRE A WATER QUALITY SPECIALIST AND DEVELOP REGIONAL LABORATORY THROUGH EPA FUNDING.

V. DATA MANAGEMENT

Please describe your analytical data management system.

NOT ESTABLISHED / DEVELOPED AT PRESENTLY

Where and how is your data stored?

PRINT-OUT FORM FROM EPA MANCHESTER LABORATORY

How is your data used?

1991 DATA WILL BE USED AS BASE LINE DATA IN THE ESTABLISHMENT OF THE SKOKOMISH WATER QUALITY MANAGEMENT / MONITORING PROGRAM. THE ANALYSIS WILL BE USED FOR POINT SOURCE & NONPOINT SOURCE POLLUTION COMPLIANCE WITH TRIBAL & STATE REGULATIONS & STANDARDS.

How is your data archived?

PAPER FILE

Who do you share your data with?

EPA AT THIS TIME.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

YES, LONG TERM ANALYSIS AND ACCESS OF TRIBAL AND OTHER (LOCAL GOVERNMENT, STATE, FEDERAL) DATA.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

DEVELOPING ADEQUATE INFRASTRUCTURE FOR LABORATORY SERVICES, FOR A SMALL TRIBAL ORGANIZATION /

What can, or should, be done to remove these impediments?

DEVELOP REGIONAL LABORATORY / TECHNICAL ASSISTANCE CENTERS TO SERVICE TRIBAL & LOCAL GOVERNMENT NEEDS.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM SKOKOMISH INDIAN TRIBE - RESERVATION SURFACE WATER

		FY92	FY93
PHYSICAL CHEMISTRY	pH	X	X
	TURBIDITY	X	X
	SP.CONDUCTANCE	X	X
	SALINITY	X	X
	ALKALINITY	X	X
	ACIDITY		
	HARDNESS	X	X
	SOLIDS (4)	X	X
	TS	X	X
	TSS	X	X
	TOTAL	9	9
ANIONS	CHLORIDE	X	X
	FLUORIDE		
	CYANIDE		
	SULFATE	X	X
	TOTAL	2	2
NUTRIENTS	AMMONIA		
	NITRATE	X	X
	NITRITE	X	X
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE	X	X
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL	3	3
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE	X	X
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE	1	1
	TOTAL		
MICRO.	COLIFORM	X	X
	ENTEROCOCCI		
	% KLEB		
	TOTAL	1	1
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)	X	X
	ICP SCAN		
	MERCURY	X	X
	HEX CHROMIUM	X	X
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL	3	3
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES	19	19

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM SKOKOMISH INDIAN TRIBE - RESERVATION GROUND WATER

		91 FY92	FY93
PHYSICAL CHEMISTRY	pH		
	TURBIDITY		
	SP.CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS	X	
	SOLIDS (4)	X	
	TS	X	
	TSS	X	
	TOTAL	4	
ANIONS	CHLORIDE	X	
	FLUORIDE		
	CYANIDE		
	SULFATE	X	
	TOTAL	2	
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE	X	
	NUTRIENTS (3)		
	NITRATE-NITRITE	X	
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL	2	
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		91 FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE	X	
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE	1	
	TOTAL		
MICRO.	COLIFORM	X	
	ENTEROCOCCI		
	% KLEB		
	TOTAL	1	
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		91 FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)	X	
	ICP SCAN		
	MERCURY	X	
	HEX CHROMIUM	X	
	PRIORITY POLLUTANT	X	
	TCLP		
	TOTAL	4	
ORGANICS	BNA		
	VOA	X	
	HERBICIDE	X	
	PESTICIDE	X	
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB	X	
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL	4	
HW DESIG.	TOX		
	PAH		
	HH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES	18	

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : FRAN WILSHUSEN
TITLE : WATERSHED MGMT. BIOLOGIST
ADDRESS : SQUAXIN ISLAND TRIBE
W81, HWY 108
SHELTON, WA 98584
PHONE # : (206) [redacted] 426-9783

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

contract with private labs.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? YES

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Work on methods to
Generate the necessary funding support to:

1. Hire additional staff
2. Create regional labs
3. Contract w/ outside labs as necessary.

V. DATA MANAGEMENT

Please describe your analytical data management system.

R-Base computer data management system.

Where and how is your data stored?

1. Squaxin Island Natural Resource Dept.
2. University of Washington

How is your data used?

- Resource management efforts
- Map development
- Harvest thresholds (determine)

How is your data archived?

Who do you share your data with?

- Other Tribes
- Northwest Indian Fisheries Comm
- Washington Dept. of Fisheries
- Thurston Co
- Mason Co
- Washington Dept. of Ecology

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Receiving:
- $
- convenience
- efficiency

Providing
- $

What can, or should, be done to remove these impediments?

Funding levels appropriate to Tribal need and program levels needs to be secured.

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE Stillaguamish Tribe

NAME : Christine Woodward
TITLE : Water Resource Planner
ADDRESS : 3439 Stoluckquamish Lane
Arlington, WA

PHONE # : 206-652-7362

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

For checking fluoride and chlorine in drinking water we test everyother day with HATCH test kits. Once a week results are called into Judi Lefferson at OHSH. Once a month a fluoride sample is sent to Yellowhawk labs in Pendelton Oregon for a reading. Once a month a bacteriological sample is sent to Am Test for reading.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We have ordered:
IBM computer
Turbidimeter
Conductivity/salinity//temperature meter
DO/BOD Tester
pH/Tester

These will be useful for our future needs in establishing water quality both for water testing in river and eventual sewage treatment [illegible] water.

V. DATA MANAGEMENT

Please describe your analytical data management system.

File system

Where and how is your data stored?

File system soon to be computerized

How is your data used?

To determine water usage, quality Records etc

How is your data archived?

Files

Who do you share your data with?

THS + EPA

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

we have in the past but when records become computerized it will be much easier & have data sheets readily Available.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

none

What can, or should, be done to remove these impediments?

nothing

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE Suquamish Tribe

NAME : Phyllis Meyers
TITLE : Environmental Biologist
ADDRESS : P.O. Box 498, Suquamish, WA 98392

PHONE # : (206) 598-3311

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

The Suquamish Tribe does not have a laboratory, however we do conduct some rudimentary water quality analysis at our hatchery, including DO, pH + acidity, ammonia + settleable solids,

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

no

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

no

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Yes, but we only use it when necessary and for outside analysis. We have a form to document sample handling age & so on.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

Metro has been analyzing most of the samples we collect, & we comply with their handling requirements for those samples.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? no

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

NA

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

~ 40%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

yes

What percentage of your work is contracted out?

~ 60%

What types of work do you usually contract out?

water quality + sediment quality work to assess suitability of aquatic habitats for fisheries (including shellfish) resources.

Please describe your procedure for utilizing outside laboratory services.

We use grant or other monies to pay for analysis or we ask other agencies to provide analysis as in-kind services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

we don't

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Metro is providing some analysis for us, however we are not meeting all our needs and have not met our needs in the past.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

1.) Request more extensive monitoring as permit conditions

2.) Pressure responsible agencies to be better resource managers.

3.) Continue to provide technical support & field services for programs which involve lab work. For example, we collect samples for PSP analysis for DOH.

V. DATA MANAGEMENT

Please describe your analytical data management system.

We are working toward developing one. Initially, we will probably use a PC w/ spreadsheet and/or database software - Lotus 123 first and perhaps R BASE as we get more data.

Where and how is your data stored?

Hard copy

How is your data used?

Submitted to water quality specialist for review + recommendations and to steering committee for same.

How is your data archived?

Who do you share your data with?

Interested citizens, local health district, Jefferson County Planning + Public Works representatives, the conservation district and the state dept. of Ecology.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

~~No~~. Our water quality program is too new for those problems to have yet developed. With other data we have difficulty staffing data entry + analysis.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

1) Lack of funding / staffing.

2) Lack of credibility / certification.

3) Naturally high levels of tannins or organics in streams flowing into the Squamish terminal fishing area may be an impediment for some tests.

What can, or should, be done to remove these impediments?

1) For environmental monitoring, proponents of projects which are environmentally degrading should provide funding, perhaps by paying for compliance monitoring for their project. We think sample parameters should be developed by technical experts, such as water quality specialists, and a more broad based sampling + analysis approach should be the standard.

2) Impediments to quality lab service are partly due to misunderstanding of what laboratory data means. Some of this misunderstanding could be cleared up by referring to fecal coliform bacteria with a different name ... something more generic. (Like perhaps the horse ducks pollution parameter (HPPP)!) or the altered system

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM Suquamish Tribe Miller Bay Project only
Hatchery testing is additional but done in-house

		FY92	FY93
PHYSICAL CHEMISTRY	pH	60	60
	TURBIDITY	60	60
	SP.CONDUCTANCE	60	60
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS	60	60
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA	60	60
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE	60	60
	TOTAL PHOSPHATE	60	60
	ORTHO PHOSPHATE	60	60
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC	6	12
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE	6	12
	TOTAL		
MICRO.	COLIFORM	60	60
	ENTEROCOCCI	60	60
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)	6	12
	ICP SCAN	15	15
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA	15	15
	HERBICIDE	6	12
	PESTICIDE	27	27
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB	6	12
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES	687	717

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Ed Knight
TITLE : Environmental Planner
ADDRESS : Swinomish Tribal Community
P.O. Box 817
PHONE # : LaConner, WA 98257
(206) 466-3163

I. CURRENT LABORATORY CAPABILITIES

N/A

Describe the services your laboratory offers to your clients:

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM

		FY92	FY93
PHYSICAL CHEMISTRY	pH	✓	
	TURBIDITY	✓	
	SP.CONDUCTANCE	✓	
	SALINITY	✓	
	ALKALINITY	✓	
	ACIDITY	✓	
	HARDNESS	✓	
	SOLIDS (4)	✓	
	TS	✓	
	TSS	✓	
	TOTAL		
ANIONS	CHLORIDE	✓	
	FLUORIDE	✓	
	CYANIDE	✓	
	SULFATE	✓	
	TOTAL		
NUTRIENTS	AMMONIA	✓	
	NITRATE	✓	
	NITRITE	✓	
	NUTRIENTS (3)	✓	
	NITRATE-NITRITE	✓	
	TOTAL PHOSPHATE	✓	
	ORTHO PHOSPHATE	✓	
	NUTRIENTS (5)	✓	
	NITROGEN-TPN	✓	
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS	✓	
	TOTAL		

		FY92	FY93
DEMAND	BOD	✓	
	BOD 20	✓	
	COD		
	TOC	✓	
	TOTAL		
MISC.	OIL& GREASE	✓	
	PHENOLICS	✓	
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM	✓	
	ENTEROCOCCI	✓	
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE	✓	
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD RHEPOXYNIUS	✓	
	FRESHWATER AMPHIPOD HYALLELA	✓	
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT	✓	
	METALS (6)	✓	
	ICP SCAN		
	MERCURY	✓	
	HEX CHROMIUM	✓	
	PRIORITY POLLUTANT	✓	
	TCLP	✓	
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE	✓	
	PESTICIDE	✓	
	ORGANOPHOS PEST	✓	
	TRI-BUTYL TIN	✓	
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH	✓	
	NON PP COMPOUNDS		
	ORGANIC SCREEN	✓	
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

II. CURRENT LABORATORY CAPACITY

N/A

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Facilities available through Skagit County Public Health Dept.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

1) Coordination with Northwest Indian Fish Commission on establishment of multi-Tribal facility

2) Skagit County Public Health Dept.

3) Contract for lab services, funded by specific grant programs.

V. DATA MANAGEMENT

Please describe your analytical data management system. None

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

1) Scarcity of accredited labs

2) High cost for specialized services

What can, or should, be done to remove these impediments?

1) Establish additional accredited labs

2) Provide funding assistance for necessary or required services

NEEDS ASSESSMENT QUESTIONNAIRE-TULALIP LABORATORY

Person completing questionaire:

Kit Paulsen
Field and Volunteer Coordinator
Tulalip Water Quality Laboratory
10610 Waterworks Rd
Marysville WA 98270
(206) 659-4130

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients.

Our laboratory collects and processes surface water samples from the Tulalip Reservation streams and lakes, the Stillaguamish and Snohomish watersheds, and northern Port Susan. We analyze samples for temperature, dissolved oxygen, conductivity, salinity, fecal coliform bacteria, nitrate-nitrite, ortho-phosphate, pH, total suspended solids, and turbidity. We also conduct flow profiles by season for some of the streams.

The Tulalip Water Quality program is funded by tribal, state and federal grants. We do not process samples for other agencies, organizations, or individuals at this time.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?
NA

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.
NA

Describe your laboratory sample tracking system.
Sample bottles are labeled with the sitecode, date, time, and sampler's intials at the sampling location. Samples are kept in a cooler in a locked vehicle while in the field. Upon arrival at the lab, the sample locations, field sampler's initials, and time of arrival are recorded in a notebook. Samples are placed in the refrigerator until processed. Only laboratory staff and selected hatchery staff are allowed in the laboratory unless prior arrangements have been made. The laboratory is locked whenever laboratory staff are absent. Most samples are processed within 12 hours of collection. The laboratory sample labels are compared to the sample bottle labels before and after conducting laboratory procedures to ensure proper coding. All laboratory records and field notes are maintained in three-ring binders in the laboratory.

Do you have documented chain of custody requirements to protect sample integrity? Please Describe.
see previous question.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.
All physical parameters and microbiological samples are processed within six hours of collection. Nutrients are processed within 12 hours of collection. Total suspended solids are processed within 48 hours of collection.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?
NO. The Tulalip Tribes would like to conduct bacteriological monitoring of shellfish beds utilized by tribal members. We do not have the laboratory space, trained personnel, or funding to conduct this sampling.

With increased pressures on water resources due to development, agricultural practices, timber harvest practices, and other point and nonpoint sources of pollution, the Department of Ecology has requested that the Tulalip Tribes increase sampling efforts in the Snohomish and Stillaguamish watersheds. At this time, we are unable to adequately monitor these watersheds for effective fisheries habitat management. Funding and laboratory space are the primary constraints to conducting this monitoring.

The Tulalip Hatchery needs more monitoring of the water supplies for incubation and rearing of salmonids. Additional monitoring of effluents is also needed. As development of the watershed occurs and fish production increases, this information becomes more and more critical. We are currently unable to meet these needs.

Other local organizations and agencies have requested sample analysis by the Tulalip Water Quality Laboratory. We are unable to accept outside samples due to the limited availability of space, supplies, equipment, and staff.

We are not able to address water quality concerns on the Tulalip Reservation, such as groundwater resources, development impacts, or ephemeral spills due to grant commitments and limited laboratory resources.

Please describe your laboratory capacity; number of staff, number of analyses performed, maximum number of analyses your laboratory can perform, etc.
There are currently 2 biologists and 1.8 technicians on staff for the laboratory. Currently we collect and analyze approximately sixty samples per month with additional sampling during fall and spring storms. This is currently the maximum number of samples the laboratory can analyze.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?
Almost all our work is completed in house.

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?
Yes. We currently contract with the University of Washington for nutrient comparison testing and the Department of Health for microbiological comparisons. Approximately 10% of our samples are split and analyzed by outside laboratories for comparison. We also contract with METRO and/or commercial laboratories for occasional priority pollutant and sediment analyses which cannot be conducted in our laboratory.

What percentage of work is contracted out?
See previous answer.

What types of work do you usually contract out? See above.
Please describe your procedure for utilizing outside laboratory services.
Sampling is typically scheduled two months in advance at Tulalip. Every two to three months, the University of Washington and Department of Health labs are contacted to arrange for comparison testing. Tulalip is charged by the number of samples analyzed.

Outside testing of bacteriological samples has become more difficult since the Snohomish County Health Laboratory was closed. Bacteriological samples should be processed within six hours of collection. The Department of Health Laboratory is located in north Seattle, almost an hour drive from Tulalip. The recommended holding time is nearly over by the time the samples are collected, split in the Tulalip Lab, and driven to Seattle. Also, having to dedicate staff and vehicle time to this drive can be problematic.

Describe any laboratory work you do for other organizations on a Fee for Service basis.
NA

How do you charge your clients for the cost of an analysis?
NA

III. MEETING CURRENT DEMANDS
If your organization does not have a laboratory, how do you currently meet your needs for analytical services?
NA

IV FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS
Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?
Definitely! We are not able to meet current monitoring needs, as stated previously, therefore it is certain we will not be able to meet future needs with existing resources.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.
This is dependent on funding. Currently the Tulalip Laboratory is funded through Centennial Clean Water Grants, a Bureau of Indian Affairs Grant, and Tribal funds. Unless a reliable, long term source of funding is provided, the Tulalip Water Quality Laboratory will not be able to meet the future needs for water monitoring.

In order to expand to meet increasing demands, the Tulalip Laboratory needs additional trained staff, increased work space, additional incubation and refrigeration space, a larger capacity water purification system, specialized equipment, and laboratory waste management services.

Outside laboratories would still need to be used for highly specialized analyses, such as detection of heavy metals, PCBs, PAHs, pesticides/herbicides, and other toxic chemicals.

V. DATA MANAGEMENT
Please describe your analytical data management system.
All data are stored in Rbase files. Tulalip utilizes a specially designed software package from KJM Consulting for sorting and low-level statistical queries. SPSS-pc is used for more technical statistical procedures. Error checks are conducted electronically during data entry, visually after data entry, and prior to statistical analysis.

Where and how is your data stored?
The laboratory personal computer has the active files on hard disc. Floppy disc back ups are kept both in the lab and in a separate office building.

How is your data used?
Data are available to any governmental agency upon request. Data have been used in Environmental Impact Statements compiled by consulting companies. Data are summarized for use by local and tribal entities in project reports at the end of each grant period. Tulalip water quality information is also part of the 1990 Stillaguamish Watershed Action Plan.

How is your data archived?
All data are copied to floppy disks and stored in two locations for safekeeping.

With whom do you share data?
See above

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?
At this time, our computer capabilities are sufficient for our data management. Data entry is often delayed due to lack of staff time. If the laboratory were to expand operations, data management needs would have to be assessed.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

There are no local pay-for-service laboratories in the Marysville area. Seattle, Redmond, or Bellingham are the closest locations for contracting out samples. It is difficult to maintain quality standards when transporting samples long distances. The costs for staff time and transportation also increase.

Many laboratories which accept comparison samples are extremely busy. It is sometimes difficult to arrange for sample comparisons on a timely basis.

What can, or should, be done to remove these impediments?

It would help to have local laboratories available for analyzing basic parameters such as fecal coliform bacteria, enterococci bacteria, and nutrients. These laboratories should also be available for technical advice.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM Tulalip Water Quality Laboratory

		FY92	FY93
PHYSICAL CHEMISTRY	pH	1000	1000
	TURBIDITY	1000	1000
	SP.CONDUCTANCE	500	500
	SALINITY	100	100
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS	350	500
	TOTAL	3550	3100

		FY92	FY93
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		

		FY92	FY93
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE	1000	1000
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE	1000	1000
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL	2000	2000

		FY92	FY93
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD	100	300
	BOD 20		
	COD		
	TOC		
	TOTAL	100	300

		FY92	FY93
MISC.	OIL& GREASE	10	20
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL	10	20

		FY92	FY93
MICRO.	COLIFORM	1000	1000
	ENTEROCOCCI	50	50
	% KLEB		
	TOTAL	1050	1050

		FY92	FY93
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)	10	20
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT	10	20
	TCLP		
	TOTAL	20	40

		FY92	FY93
ORGANICS	BNA		
	VOA		
	HERBICIDE	10	20
	PESTICIDE	10	20
	ORGANOPHOS PEST		
	TRI-BUTYL TIN	5	5
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB	10	20
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL	35	65

		FY92	FY93
HW DESIG.	TOX		
	PAH	5	10
	1&1		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL	5	10

	FY92	FY93
TOTAL SAMPLES	5170	6585

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE Northwest Indian Fisheries Commission

NAME : Janet Gleckler
TITLE : Fish Health Lab Tech
ADDRESS : 6730 Martin Way E
Olympia, Wa 98506

PHONE # : 438-1180

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

The Tribal Fish Health Lab was created to meet the needs of the tribal hatcheries, and at the present time those needs include bacteriology and virology of salmon and steelhead tissues. A regular monitoring program is in operation for each of our hatcheries for the 20 tribes which includes on-sight diagnostics, and samples are then brought back to the lab for further analysis. If there seems to be a problem that is not pathological, some water analysis is done that only includes simple DO levels, saturation levels, salinity and temperature monitoring, and flow levels, which many hatcheries are capable of doing themselves.

We are currently in the process of expanding our lab facility to include a water quality area that will provide testing to meet NPDES requirements--Settleable Solids, fecal coliform levels,etc.
The tribes will be responsible for their own testing on a regular basis, and our facility would only be support.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Most often a pathologist will sample and bring those back tc the lab. Otherwise, hatchery personnel will deliver samples or we take advantage of UPS and Greyhound for hatcheries that are more than approximately 75miles away.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Yes, our lab supplies all of the above. We supply the containers for spawning samples, an assortment of tubes and plastic bags for tissue samples and live fish. We supply insulated mailing boxes, blue ice, racks, numerous forms and loan out some of our equipment from the lab. We provide some of the antibiotics and chemicals depending on the situation.

Describe your laboratory sample tracking system.

We have a general log that each sample is entered in when it comes into the lab. From there it is categorized into the specific area of testing and entered into the database. All information from each case is entered as it is completed (which may range over a period of several weeks), and at the time of completion a final report is prepared and returned to hatchery by its'assigned pathologist.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Our samples are provided by our own pathologists, or by our trained hatchery personnel. We have not seen a need to formally set up a system for protection. Once the samples are in the lab there are two people that routinely handle them, and integrity of the sample is the priority.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

The required growth period for virology samples is 21 days, and for bacteriology samples, 1 week. We allow extra time if we find suspicious growth, so we do not have a specific deadline. We keep our hatcheries informed of progress during the time we are waiting, and send out final reports as promptly as is possible. During certification season for spawning samples, we hold many results for one final report, which the hatchery is fully aware of.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? Our lab responds to the needs of the tribes as they deem necessary. If they want more service, they provide the funding (see below)

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

At present we have one Lab Technician and three Fish Pathologists with a fourth soon to be brought in. The number of cases we receive each week varies from 3 fish to 1200 fish depending on the season. We are fortunate that we have not yet reached a maximum number of samples to be handled. If we are extremely inundated with samples, the pathologists have known ahead of time and planned to work in the lab to balance the load.

*As previously mentioned, we are in the process of adding a water quality area that will only be used as support for the tribal NPDES needs.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

100%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Not at this time

What percentage of your work is contracted out?

None

What types of work do you usually contract out?

None

Please describe your procedure for utilizing outside laboratory services.

None

Describe any laboratory work you do for other organizations on a Fee for Service basis.

We occasionally do egg sale certifications for private growers if we have the time, but do not encourage this use of our lab.

How do you charge your clients for the cost of an analysis?

Fees are based on number of fish sampled, and type of testing required.

See attached fee schedule

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

We are currently meeting the needs of all our hatcheries for fish health, and only will add water quality capabilities as noted above.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We do not see a need to expand our primary lab services at this time. A fourth pathologist will be added soon to balance out hatchery resposibilites, but an increase in the lab efforts should not change at this point.

At this point the tribal shellfish issue is still undefined, but we will need to utilize an outside lab for testing for chemicals, if the need arises.

V. DATA MANAGEMENT

Please describe your analytical data management system.

We are currently using a program written especially for fish health entitled Island Science, for our PC based system.

Information is stored by year and case #, and several different reports can be printed pulling out pertinent data for the designated report.

Where and how is your data stored?

Northwest Indian Fisheries Commission uses a LAN system. When we receive samples, a case # is assigned and the data is entered along with hatchery information.

We also have hard copies that notations are made on during the processing, and these are kept with a copy of the final report that is prepared for the hatchery.

How is your data used?

Analyses of yearly disease outbreaks at each hatchery, number of cases from each hatchery to compare production and health, keeping track of lab work requirements, ability to pull up a full history of fish health at a single hatchery.,etc.

How is your data archived?

All data is on the LAN, and we have hardcopies of all cases completed since the lab opened in 1988.

Who do you share your data with?

Our data is available to anyone requesting information.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

no

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

None at this time.

What can, or should, be done to remove these impediments?

At this point we are unsure of any future needs. If we need testing on shellfish, then we would utilize an outside lab, and what things to be tested for are unknown now.

JG

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM NW Indian Fisheries

		FY92	FY93
PHYSICAL CHEMISTRY	pH		
	TURBIDITY		
	SP.CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS		
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM		
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

Point No Point Treaty Council

Port Gamble S Klallam • Lower Elwha Klallam • Jamestown Klallam • Skokomish

August 26, 1991

Dick Schroeder
Dept of Ecology
Program Planning & Support Section
7171 Clearwater Lane, Bldg 8, LH-14
Olympia, WA 98504-6814

Dear Mr. Schroeder;

On behalf of the member tribes of the Point No Point Treaty Council (PNPTC), I am responding to your request for information regarding preparation of a laboratory needs assessment.

Our current demands for laboratory services are being met through two procedures. The Washington State Department of Health performs fecal coliform testing of water and shellfish meats as well as paralytic shellfish poisoning testing of shellfish meats. The Northwest Indian Fisheries Commission provides fish pathology services which we utilize in conjunction with our hatchery projects.

We expect that our present needs will continue to be met by existing procedures. However, in the future we forsee the need for laboratory services to work up samples required as part of the NPDES permitting process of tribal hatcheries. We have not yet addressed how we will meet this need.

In addition, as the scope of tribal water quality programs develop in cooperation with the Environmental Protection Agency, we would anticipate an expanded role for tribes in water quality monitoring and analysis regarding both public health and natural resource protection concerns.

Our analytical data management system is very rudimentary. It consists of data storage on Lotus spreadsheets, with subsequent anaylsis by our technical fisheries staff.

7999 N.E. Salish Lane • Kingston, Washington 98346 • Kingston (206) 297-3422 • FAX (206) 297-3413

I hope this information is helpful. Please call Chris Weller if you have any questions at 297-3422.

Sincerely,

Tish Parmenter

Tish Parmenter
Habitat Program Coordinator

cc: Joseph Pavel
Jake Jones
Ron Allen
Carla Elophson
Fishery Managers

APPENDIX C

PART II

City and County Responses to Appendix A Questionnaire

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

Please do send copy of completed report.

PERSON COMPLETING QUESTIONNAIRE

NAME : DAVID RENSTROM
TITLE : WATER QUALITY PROGRAM MANAGER
ADDRESS : CITY OF BELLEVUE, SSWM
P.O. BOX 90012
Bellevue, WA 98009
PHONE # : (206) 455-7818

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

We operate a small laboratory for the Storm + Surface water utility. Primarily the lab supports a grant funded (CCWA) project which includes sampling of stormwater. One technician performs the field + lab work, as well as data entry. Only pH, conductivity and turbidity are performed in-house. Other samples are prepared for the contract lab.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Field tech performs all functions, including delivery of samples to the contract lab

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

N/A

Describe your laboratory sample tracking system.

Samples are labelled with date and station code. Reports from contract lab are cross checked with our record of samples submitted. Data is entered into a spreadsheet data base for each station.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

One individual does all sampling, prep + delivery to lab. Lab performs their own chain of custody.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

per lab contract, which specifies Std. methods or EPA guidelines

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.
Currently only do sample prep for contract lab. In house do pH, cond, turbidity for 120 samples/event/yr.
Facility itself could handle much greater work load. Well equipped with hood, counter space, water still, sinks, chemical storage + safety equipment

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?
about 10%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?
Yes

What percentage of your work is contracted out?
90%

What types of work do you usually contract out?
nutrients, metals, organics
Also contract out other studies analytical work.
Now doing mgmt of lab contract for interjurisdictional "Biofiltration" grant (CCWA). Plan to do a multi-year water quality monitoring of a stormwater facility beginning next year. Analyses (similar to current NPDES project) will probably be done by Metro Lab

Please describe your procedure for utilizing outside laboratory services.
typically do RFQ's every few years
negotiate contract with qualified firms
pay on recurring costs.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

No

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Yes - will need to expand utilization of our lab and/or contract for additional services.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Use outside labs.
Also may expand use of our lab, perhaps by interlocal agreement with other eastside cities.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?
On hard copy & disk - Lotus spreadsheet

How is your data used?
Currently preparing final report for 2 years stormwater monitoring project.

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Work load

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

What can, or should, be done to remove these impediments?

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM CCWA NPDES grant

Pb, Zn, Cu, Cd, Ni, Cr

		FY92	FY93
PHYSICAL CHEMISTRY	pH	120	130
	TURBIDITY	120	130
	SP.CONDUCTANCE	120	130
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS	120	130
	SOLIDS (4)		
	TS		
	TSS	120	130
	TOTAL	600	650
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA	120	130
	NITRATE	120	130
	NITRITE	120	130
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	120	130
	ORTHO PHOSPHATE	120	130
	NUTRIENTS (5)		
TKN	NITROGEN-TPN		
	TOTAL	600	650
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD	25	30
	TOC		
	TOTAL		
MISC.	OIL& GREASE	15	20
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL	40	50
MICRO.	COLIFORM	120	130
	ENTEROCOCCI		
	% KLEB		
	TOTAL	120	130
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN	120	130
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL	120	130
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH	15	20
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL	15	20
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES	2600	2800

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Julie Hirsch
TITLE : Technical Supervisor
ADDRESS : 2221 Pacific St., Bellingham, WA 98225

PHONE # : 206-676-6977

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Municipal wastewater treatment and water filtration plants.

Watewater: Monitor wastewater quality for NPDES permit requirements and process control.

Water: Monitor drinking water quality for distribution system serving community of 60,000.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Samples collected and transported by laboratory staff.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Most samples collected by laboratory staff. Sample containers analysis forms and log sheets supplied to field inspectors.

Describe your laboratory sample tracking system.

Samples logged in on field sheet upon collection and receipt in the laboratory. Bench sheets used for each analysis.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Chain of custody procedures used for special samples only. Secure area available for chain of custody sample storage.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

We do not provide analytical services for "outside customers". Laboratory holding times as per Standard Methods for Examination of water and wastewater 17th edition.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? Yes

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Staffing: 3 laboratory technicians
Water: 2,000 samples analyzed/year
maximum capacity; 30 samples/day
Wastewater: 2,000 samples/year

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

85%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Yes

What percentage of your work is contracted out?

15%

What types of work do you usually contract out?

Trihalomethanes
Vocb
Metals
Inorganics

Please describe your procedure for utilizing outside laboratory services.

Samples collected by laboratory staff and sent to certified commercial laboratory.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

None

How do you charge your clients for the cost of an analysis?

n/a

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Wastewater facility upgrade will result in new laboratory facilities. Laboratory staffing projected to double by 1993.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Data collected on field and bench sheets is entered and stored on computer spreadsheets.

Where and how is your data stored?

All field and bench sheets stored in hard copy form for five years. Data stored in computer files.

How is your data used?

Data used for regulatory reporting, process control, water quality trend analysis, and for special projects.

How is your data archived?

Data archived on computer disks and notebooks.

Who do you share your data with?

Data shared with regulatory agencies, plant and department personnel, and local government. Data available to public upon request.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Need exists for streamlined data storage and analysis computer package for water and wastewater laboratory data.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

n/a

What can, or should, be done to remove these impediments?

n/a

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM WASTEWATER TREATMENT

		FY92	FY93
PHYSICAL CHEMISTRY	pH	1095	1095
	TURBIDITY		
	SP CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS	1080	1080
	TSS	1080	1080
	TOTAL	3265	3265
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD	1080	1080
	BOD 20		
	COD		
	TOC		
	TOTAL	1080	1080
MISC.	OIL& GREASE	15	15
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL	15	15
MICRO.	COLIFORM	365	365
	ENTEROCOCCI		
	% KLEB		
	TOTAL	365	365
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	HH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES	4715	4715

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM WATER TREATMENT

		FY92	FY93
PHYSICAL CHEMISTRY	pH	300	300
	TURBIDITY	300	200
	SP.CONDUCTANCE		
	SALINITY		
	ALKALINITY	400	400
	ACIDITY		
	HARDNESS	104	104
	SOLIDS (4)		
	TS		
	TSS		
	TOTAL	1104	1104

		FY92	FY93
ANIONS	CHLORIDE	650	650
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL	650	650

		FY92	FY93
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		

		FY92	FY93
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD	-	-
	BOD 20		
	COD		
	TOC		
	TOTAL		

		FY92	FY93
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		

		FY92	FY93
MICRO.	COLIFORM	2,300	2,300
	ENTEROCOCCI		
	% KLEB		
	TOTAL		

		FY92	FY93
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		

		FY92	FY93
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		

		FY92	FY93
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		

	FY92	FY93
TOTAL SAMPLES	1405	1405

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Ray Franklin
TITLE : Environmental Health Specialist II
ADDRESS : 222 E. Fourth St
Port Angeles, WA. 98362
PHONE # : (206) 452-7831 x 332

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Total & fecal Coliform Testing

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

No
Customer delivers his own samples.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Sample bottles with sample form (State Lab form)

Describe your laboratory sample tracking system.

Logged in at front desk.
Stored in refrigerator until testing.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Yes. Procedures are as noted in the QA section of the procedure manual as approved by Dept. of Health Certification Office.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

Generally 6 - 24 hours. Samples processed in less than 30 hours as required by Dept. of Health.

Total Coliform - $12.00
Fecal Coliform - $15.00

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? yes

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc. Approximately ½ full time employee 3000 - 3200 samples per year at present staffing load Could perform up to 4000/year

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house? 100 %

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity? Our customers use outside labs, we do not

What percentage of your work is contracted out?

None

What types of work do you usually contract out?

None

Please describe your procedure for utilizing outside laboratory services.

Refer customers to outside labs for testing other than Coliform.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

None

How do you charge your clients for the cost of an analysis?
payment at time of submission, or billing. Depends on client and whether client is repeat customer or not.

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Yes, there has been several complaints that we do not preform nitrate sampling.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.
additional staff will be required, or make time by present staff. However, if additional funding is not available for additional staff, then I will need to maintain current levels or cut back.

V. DATA MANAGEMENT

Please describe your analytical data management system.

The State Dept. of Health maintains results on all Public Water Systems. Data is sent weekly to the State.
We maintain records (hard copy) of all samples Run for last 5 years.

Where and how is your data stored?

State - Computer
Clallam County - Hard copy and in yearly log books.

How is your data used?

as Reference to the results of past water tests.

How is your data archived?

State Computer

Who do you share your data with?

Whoever asks
The State Dept of Health is routinely Notified (weekly).

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

We do not yet have ability to access State computer system - that is coming.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Staffing & funding are primary concerns. Also, with increase in demand, space will become a problem.

What can, or should, be done to remove these impediments?

Additional funding, through increased fees, and/or special grants would be helpful.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM _____

		FY92	FY93
PHYSICAL CHEMISTRY	pH		
	TURBIDITY		
	SP CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS		
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM	3200	3500
	ENTEROCOCCI		
	% KLEB		
	TOTAL	3200	3500
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

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Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Sandy Hunt — Dave Bonvouloir
TITLE : Environmental Health Spec II — Solid Waste Mgr.
ADDRESS : Island County Health — Island County Solid Waste
P.O. Box 5000 — -Same Address
Coupeville WA
PHONE # : (206) 679-7350 — (206) 679-7338

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?
We use Lawrks Lab, Am Test or the State Lab

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Don't Know [No]

Describe how you propose to meet future demands for analytical services – establish laboratory, additional staff, utilize outside laboratories, etc.
Utilize outside laboratories - They have been doing an excellent job.

V. DATA MANAGEMENT

Please describe your analytical data management system.

See attachment

Where and how is your data stored?

Harscopies and on the computer with back-up on floppies

How is your data used?

To monitor the G.W. quality surrounding the Landfill at Coupville and 4 other closed landfills in Island County.

How is your data archived?

We don't have any — it is stored in the file lab — data on hard disk is backed up periodically.

Who do you share your data with?

Solid Waste Dept and the public upon request also DOE AND the Ground Water Mang committee

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Tech assistance for recognizing trends,

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

ERRORS in reporting sample I.D. ~ not the Results but the I.D. #

What can, or should, be done to remove these impediments?

Better Q.C. at the lab

INTRODUCTION

BACKGROUND

In order to comply with Minimum Functional Standards (MFS), WAC 173-304-490, Coupeville Landfill must evaluate new and existing groundwater monitoring data to determine if there is a statistically significant difference between water quality in the upgradient and downgradient monitoring wells. The MFS do not specify the statistical approach to use and landfill operators have a considerable amount of latitude in the approach they select.

This Lotus spreadsheet was developed to evaluate the current setup in place at Coupeville Landfill, consisting of two upgradient wells (N1 and W1) and five downgradient wells, with sampling consisting of one sample taken from each well on each quarterly sampling date. Space is also allowed for the placement of one more upgradient well and two more downgradient wells.

METHODOLOGY

This spreadsheet uses a statistical method presented by Gibbons (1987), where single new monitoring values can be compared to historical background data. This method consists of computing 99% confidence prediction limit(s) based on the historical background data. If the value of the new monitoring measurements fall outside the range of the prediction limit(s), statistically significant groundwater contamination is indicated.

This method is not directly appropriate for the analysis of indicator compounds that exhibit values below detection levels nor for volatile organic compounds that occur in less than 5% of all measurements obtained from clean upgradient wells, field blanks, and trip blanks. Because this method does not take into account the non-detects the confidence intervals are computed only on the higher values encountered. This results in the possiblity for false negatives; saying the test is OK when in fact it is high. Periodic (annual) scrutiny of the data should be performed to ensure that false negatives are not masking a trend-change over time in any given parameter due to contamination. The formula presented by Gibbons for computing the confidence interval is as follows:

$$\text{limit} = \bar{x} \pm \sqrt{(1 + 1/n)}\, t_{[n-1;a/2k]}\, s$$

where

$\bar{x}$ = sample mean of background

$\sqrt{(1 + 1/n)}\, t_{[n-1;a/2k]}$ = value from table

s = sample standard deviation of background

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : PAT RUBIDA / BRIAN MCLAUGHLIN
TITLE : WATER QUALITY COORDINATOR / WATER QUALITY AIDE
ADDRESS : JEFFERSON COUNTY PLANNING AND BUILDING
COUNTY COURTHOUSE, P O BOX 1220
PORT TOWNSEND, WA 98368
PHONE # : (206) 385-9355

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services? FECAL COLIFORM ANALYSIS: WE HAVE RETAINED A LABORATORY IN TACOMA (A CERTIFIED ONE) FOR ANALYSIS. TURBIDITY: LABATORY SPACE AT THE LOCAL HIGH SCHOOLS SCIENCE DEPARTMENT HAS MADE IT POSSIBLE TO CARRY OUT THIS PARAMETER. TSS: LABATORY SPACE HAS BEEN USED AT THE LOCAL SEWAGE TREATMENT PLANT TO CONDUCT THIS PARAMETER. NOTE: SINCE THERE 3 SEPARATE LOCATIONS FOR ANALYSIS THE COORDINATION FOR ANALYSIS IS VERY COMPLEX. THE MANY VARIABLES ARE BUS SCHEDULES FOR SHIPPING SAMPLES, REQUIRED LAB SPACE & TIME THAT IT IS AVAILABLE.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? MOST CERTAINLY, OR CONTRACT WITH

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

IN ALL LIKELIHOOD WE WILL UTILIZE OUTSIDE LABORATORIES

V. DATA MANAGEMENT

Please describe your analytical data management system.

Where and how is your data stored?
IN FIELD & LAB Book, Then transfered to MASTER DATA sheet in prep. for Loading onto computer.

How is your data used? ① BASELINE DATA ② TO FIND VIOLATIONS of WAC 173 & AREAS where compliance EXISTS.

How is your data archived? report form.

Who do you share your data with? - The DOE, Fisheries, Wildlife, Tribes Conservation District, A Number of Groups & organizations From The local AREA.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

① The BUS SCHEDULE & SAMPLE TIME CREATES UNNEEDED COMPLICATIONS, BUT ARE NECESSARY BECAUSE THERE IS NO LAB THAT IS CLOSER.
② COORDINATING THE SCHEDULE BETWEEN 3 LABS & SAMPLE TIME.

What can, or should, be done to remove these impediments?

AN ACCREDITTED LAB CLOSER TO THE NORTH OLYMPIC PENINSULA CAPABLE OF HANDLING THE VOLUME OF AMBIENT AND RUNOFF SAMPLES FROM COUNTIES ON THE PENINSULA

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM JEFFERSON CO. WATER QUALITY PROGRAM

		FY92	FY93
PHYSICAL CHEMISTRY	pH	✓	✓
	TURBIDITY	✓	✓
	SP CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS	X	X
	TOTAL		

		FY92	FY93
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		

		FY92	FY93
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		

		FY92	FY93
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		

		FY92	FY93
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		

		FY92	FY93
MICRO.	COLIFORM	X	X
	ENTEROCOCCI		
	% KLEB		
	TOTAL		

		FY92	FY93
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		

		FY92	FY93
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE	✓	✓
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	MON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		

		FY92	FY93
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

King County
Environmental Division
Parks, Planning and Resources Department
3600 - 136th Place Southeast
Bellevue, Washington 98006-1400
(206) 296-6602

September 4, 1991

Mr. Dick Schroeder
Planning and Program Support Section
State of Washington Department of Ecology
7171 Cleanwater Lane, Building 8, LH-18
Olympia, WA 98504-6814

Dear Mr. Schroeder:

The Environmental Division of King County is pleased to respond to your laboratory needs assessment survey by returning the enclosed questionnaire. King County does not have laboratory facilities and therefore completed only sections III through VI. I'm sure information provided by this survey will enable the Department of Ecology to better fulfill its mission to address environmental issues and particularly assess its present and future needs concerning water quality.

I would also like to take this opportunity to inform you that water quality issues are being addressed by both the recently created Environmental Division within the King County Parks, Planning and Resources Department and the Surface Water Management Division (SWM) within the Department of Public Works in addition to the Seattle-King County Health Department. Therefore, I have provided both SWM and the Health Department with a duplicate copy of the questionnaire in hopes that their responses would supply additional information for your survey.

If you have any additional questions regarding our needs and concerns please call Klaus Richter in our Resource Planning Section at 296-7264.

Sincerely,

David Master for

Clint Lank
Administrator

CL:kr
Enclosure

cc: Derek Poon, Section Chief, Resource Planning

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

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Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Klaus Richter, Ph.D
TITLE : Resource Planner
ADDRESS : 3600 - 136th Place SE
Bellevue, WA 98006

PHONE # : 296-7264

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Not Applicable

P211-ED

RECEIVED

JUL 15 1991

KING COUNTY

RES[illegible] PLANNING

CHRISTINE O. GREGOIRE
Director

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

7171 Cleanwater Lane, Building 8, LH-14 • Olympia, Washington 98504-6814

PCD REQUEST FOR WORK
Assignment No. P211
To Schroeder
Date 7/12
Due 8/9
Needs [illegible] AL
Get Need Survey
__ Coordinate [illegible]

__ Respond for Dir Sig
X Respond for Mgr Sig
X Send CC of Resp to PCD

July 8, 1991

Mr. Jim Tracy, Director
King County Parks,Planning and Resources Department
506-2nd Avenue #707
Seattle, WA 98104-1739

Dear Mr. Tracy:

The Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of local governmental bodies and other entities in the Puget Sound region. This assessment is intended to help identify current laboratory needs and how or if they are being met.

The enclosed questionnaire will provide basic information necessary for Ecology to formulate the needs assessment. Please pay particular attention to the questions regarding impediments to laboratory service. Feel free to go into depth in answering these or any other questions. Please complete the questionnaire and return it to me by August 9, 1991.

The responses from the local governmental bodies will be included in the laboratory needs assessment being prepared for the Puget Sound Water Quality Authority. This report will also include data received from tribal governmental bodies. I will be happy to send you a copy of the completed report, at your request.

If you have any questions, please call me at (206) 586-5057. I would appreciate hearing from the person I will be working with to identify your needs and concerns.

Sincerely,

Dick Schroeder
Planning & Program Support Section

ASSIGNED TO:
Res. Plan

DS:kd
Enclosure

cc: Lynn Singleton
Ken Dzinbal

RECEIVED
JUL 11 1991
PARKS, PLANNING AND
RESOURCES DEPT.

II. CURRENT LABORATORY CAPACITY

Not Applicable

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Most of our water quality data is kept in spreadsheet form. We use SMART software, an integrated package. Of course, all of our data are also available in ASCII format. Certain types of data have also been incorporated into specific analysis packages (e.g., statistical).

Where and how is your data stored?

Spreadsheet files compatible with IBM pc AT (286) machines. Much of the data is also available in Apple compatible form.

How is your data used?

Our data are used to support the development of wetland and stormwater management guidelines (part of the mission of the Puget Sound Wetlands and Stormwater Management Research Program). Water quality, hydrologic, soils, plant, and animal data all support this effort. Basic and complex statistical analyses are used to compare and contrast wetland ecosystem response to changes in stormwater hydrology and water quality resulting from development. Data are also used to calculate mass loadings of pollutants and to estimate pollutant removal in wetlands.

How is your data archived?

We have no formal archiving system.

Who do you share your data with?

Interested local governments and agencies, and private consultants working in areas where we have data. The results of our data are communicated to the research advisory board overseeing the research. Data are transferred to others in ASCII form or in SMART worksheet files.

EPARTMENT OF ECOLOGY
ROJECTED ANALYTICAL NEEDS
Y PARAMETER

PROGRAM _____

		FY92	FY93
PHYSICAL CHEMISTRY	pH		X
	TURBIDITY		X
	SP CONDUCTANCE		
	SALINITY		
	ALKALINITY		X
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS		X
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA		X
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		X
	TOTAL PHOSPHATE		X
	ORTHO PHOSPHATE		X
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		X
	TOTAL		
MISC.	OILS GREASE		X
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM		X
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		X
	ICP SCAN		X
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

✓ If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Bill Eckel
TITLE : Project manager, Water Quality Program
ADDRESS : 400 Yesler Way, Rm 400
Seattle, WA 98104

PHONE # : 296-6519

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

All of our analytical needs are contracted out to a commercial laboratory.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We have proposed establishing our own water quality laboratory in 1992 to analyze samples for total phosphorus, soluble reactive phosphorus, fecal coliform, total suspended solids, turbidity, alkalinity, and hardness. Our remaining analytical needs will be met with contract services to a commercial laboratory. Our 1993 laboratory analytical capabilities remain to be determined.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Presently, we received hard copy laboratory reports (including QA/QC results) for each project from our commercial laboratory. This information is put into Lotus 123 spreadsheets in chronological order for each project. The original hard copy data from the laboratory remains in the project file.

Where and how is your data stored?

The data is stored on 3½" diskettes once it has been inputted into Lotus 123 files.

How is your data used?

Our data is used for developing a variety of water quality reports for our capital improvement program (CIPs), basin planning program, master drainage plan (MDP) support, and various DOE Centennial Clean water Fund grants.

How is your data archived?

Our program is only 2.5 years old, so all of our data remains active. Future archives will include computer disks and hard copy data filed away with additional project information. The information will also be stored in a larger database for all water quality data collected by King County, organized by basin and project title.

Who do you share your data with?

Most of our data sharing is with private consultants or other agencies.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

I have experienced some difficulty accessing data or finding a record of its existence. A regional water quality database, which was continuously updated is really needed. Some problems also exist in analyzing data because of missing information (i.e. sample type - storm, baseflow, high flow, accurate site description, antecedent precipitation, etc) or data format

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Accessibility and availability are probably two of the more important factors we look at for choosing a laboratory, in addition to the usual factors such as QA/QC, cost, and turn around time. For our program, we need to be able to bring samples into the laboratory at odd hours (i.e. evenings & weekends). We also need a laboratory that is centrally located to our work area. Many of our projects take us to opposite ends of the county, so we need a lab which is close to our "dispatching area.

What can, or should, be done to remove these impediments?

We are working on creating our own laboratory to meet our sampling needs. It will be accessible and staffed during evening & weekend hours as needed.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

* WATER ONLY *

PROGRAM _____

		FY92	FY93
PHYSICAL CHEMISTRY	pH	200	600
	TURBIDITY	200	600
	SP CONDUCTANCE	200	600
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS	200	600
	SOLIDS (4)		
	TS		
	TSS	200	600
	TOTAL		
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		
NUTRIENTS	AMMONIA	100	300
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE	200	600
	TOTAL PHOSPHATE	200	600
	ORTHO PHOSPHATE	200	600
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL	1700	5100

		FY92	FY93
DEMAND	BOD	50	100
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE	200	600
	PHENOLICS		
	CHLOROPHYLL	25	100
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM	200	600
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX	5	10
	TOTAL	480	1410

		FY92	FY93
METALS	METALS/ELEMENT	200	600
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT	20	40
	TCLP	5	10
	TOTAL		
ORGANICS	BNA	10	20
	VOA	10	20
	HERBICIDE	10	20
	PESTICIDE	10	20
	ORGANOPHOS PEST	5	10
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB	10	20
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH	150	300
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL	430	1060
	TOTAL SAMPLES	2610	7570

Al Cu, Pb, Zn

Sediment only

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Ralph J. DeClements
TITLE : Operations Supervisor
ADDRESS : Kitsap County Public Works, Wastewater Division
614 Division Street
Port Orchard, WA 98366

PHONE # : (206) 876-7197

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

We offer laboratory testing to other municipalities within Kitsap County. Please see attached list, Form #1.

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

No courier service is offered. Samples are delivered by the municipality personnel at pre-determined times, in the proper containers and under the required preservation.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

We usually supply the first set of sample containers and the necessary chemicals. If the municipality needs more, they purchase their own supplies. Chain of custody requests are supplied by us. We can provide plastic or glass containers depending on established E.P.A. and D.O.E. requirements.

Describe your laboratory sample tracking system.

Tracking via the Chain of Custody form (See Form #2) and Kitsap County Data Sheets (See Form #3). All information on laboratory testing is logged into the computer system as well as kept on file.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Yes. See attached Form #2.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

For laboratory holding times see attached Form #4.

For laboratory prices see attached Form #5.

Target turnaround times are agreed upon by lab staff and the customer.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? Yes.

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Number of staff is 3 persons. Laboratory capacity as shown on Form #6 was 14,489 analyses in 1990. Maximum number of analyses the lab can perform is 15,790.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house? 90%

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

Yes. We split samples with E.P.A., military and others. We send out samples that we do not perform.

What percentage of your work is contracted out?

About 10%

What types of work do you usually contract out?

Cyanides, organics and certain metals

Please describe your procedure for utilizing outside laboratory services.

We usually use the low bidder out of three or more outside labs. It depends on turnaround time, accessibility and quality of service also.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

The bottom right portion of Form #1 lists the abbreviations for customers and the tests performed for them.

How do you charge your clients for the cost of an analysis?

We charge by account. The back side of Form #1 lists some pricing.

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? Yes.

Describe how you propose to meet future demands for analytical services – establish laboratory, additional staff, utilize outside laboratories, etc.

Depending on laboratory accredidation through D.O.E. and new monitoring tests that may be required, we will expand by adding new staff, new equipment or will send more samples out to other laboratories.

V. DATA MANAGEMENT

Please describe your analytical data management system.

All data is entered into a personal computer and reports are generated for files, billing and other reports.

Where and how is your data stored?

Data is stored on the hard drive until transfered to disk. All worksheets are filed and stored for length of time required by D.O.E.

How is your data used?

For reports and billing purposes.

How is your data archived?

All data is archived on floppy disks.

Who do you share your data with?

D.O.E., E.P.A., and copies of information go to customers.

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

The programs we use were generated by County staff. Some gliches do appear from time to time.

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Indecision by different government agencies in determining proper test procedures and policies.

What can, or should, be done to remove these impediments?

Once a decision is made, stick to it.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM _____

		FY92	FY93
PHYSICAL CHEMISTRY	pH	2513	2633
	TURBIDITY	100	100
	SP.CONDUCTANCE	350	367
	SALINITY	–	–
	ALKALINITY	399	418
	ACIDITY	267	279
	HARDNESS	–	–
	SOLIDS (4)	–	–
	TS	–	–
	TSS	2925	3065
	TOTAL	3629	6862
ANIONS	CHLORIDE	100	105
	FLUORIDE	–	–
	CYANIDE	30	30
	SULFATE	50	55
	TOTAL	180	190
NUTRIENTS	AMMONIA	515	540
	NITRATE	163	171
	NITRITE	–	–
	NUTRIENTS (3)	–	–
	NITRATE-NITRITE	–	–
	TOTAL PHOSPHATE	28	31
	ORTHO PHOSPHATE	–	–
	NUTRIENTS (5)	–	–
	NITROGEN-TPN	–	–
	TOTAL	706	742
SPECIAL AIR	AIR FILTERS	–	–
	ASBESTOS	–	–
	TOTAL	–	–

		FY92	FY93
DEMAND	BOD	1496	1515
	BOD 20	--	--
	COD	161	168
	TOC		
	TOTAL	1657	1783
MISC.	OIL& GREASE	82	86
	PHENOLICS	–	–
	CHLOROPHYLL	–	–
	COLOR	–	–
	GRAIN SIZE	–	–
	TOTAL	82	86
MICRO.	COLIFORM	895	937
	ENTEROCOCCI		
	% KLEB		
	TOTAL	895	937
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.	2	2
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.	2	2
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)	462	484
	ICP SCAN		
	MERCURY	24	24
	HEX CHROMIUM		
	PRIORITY POLLUTANT	2	2
	TCLP	-	-
	TOTAL	488	510
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

CENTRAL KITSAP COUNTY WASTEWATER TREATMENT PLANT
MONTHLY LABORATORY REPORT

: JULY 1991

PLANT # ANALYSES	CK	MAN	SUQ	KNG	BI	LS17	KEY	BREM	GW	KCHD	OTH	TOT	QC
SOLIDS	165	10	15	17	5	11	1	0	0	0	6	230	22
BOD5	51	10	10	10	5	10	1	0	0	0	9	106	30
COD	0	5	0	0	0	0	0	0	0	0	10	15	8
pH	209	0	0	0	0	0	0	0	0	0	0	209	0
VOL. ACIDS	22											22	5
ALKALINITY	23	0	0	0	0	0	0	0	0	0	0	23	0
COLIFORM	23	5	5	5	5	0	0	9	0	0	8	60	22
CONCDIVTY	8	8	10	8	4	0	0	9	0	0	0	47	5
SETTLEABLES	124											124	0
TURBIDITY	0										0	0	0
CL RESIDUAL	31											31	0
CYANIDE	1											1	
TKN	3	0	0	0	0	0	0	0	0	0	12	15	5
NO3-N	0	0	0	0	0	0	0	0	5	0	7	12	3
NH3-N	15	8	8	8	4	0	0	7	5	0	2	57	10
METALS	45	16	16	16	8	9	9	99	0	0	18	236	24
SULFATE	0	0	0	0	0	0	0	7	5	0	2	14	3
CHLORIDE	0	0	0	0	0	0	0	7	5	0	2	14	3
PHOSPHORUS	0	0	0	0	0	0	0	0	0	0	8	8	3
OIL&GREASE	2	0	0	0	0	1	0	0	0	0	4	7	1
SULFIDE	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	722	62	64	64	31	31	11	138	20	0	88	1231	

TOTAL ANALYSES : 1231 TOTAL QUALITY CONTROL : 144 %: 12

CK = CENTRAL KITSAP WWTP
MAN = MANCHESTER WWTP
SUQ = SUQUAMISH WWTP
KNG = KINGSTON WWTP
KCHD = KITSAP CO. HEALTH DEPT.

BI = BLAKE ISLAND WWTP
LS 17 = LIFT STATION 17
KEY = KEYPORT NAVY BASE
BREM = CITY OF BREMERTON WWTP
GW = GROUNDWATER MONITORING
OTH = OTHER SAMPLES

KITSAP COUNTY PUBLIC WORKS DEPARTMENT
CHAIN OF CUSTODY RECORD

Form #2

Page_____ of_____

Plant or Project Name

Samplers *(Signature)* *Printed Name*

Sample Location	Date	Time	Comp.	Grab	Preservation	No. of Containers	Testing Parameters						Laboratory Log Number

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*		Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*		Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date/Time	Received for Laboratory by: *(Signature)*		Remarks:		

INSTRUCTIONS:

1. Complete in ballpoint pen.
2. Draw one line through errors and initial.
3. Be specific in test requests.
4. Retain final copy after signing.
5. Top two copies stay with samples.

CENTRAL KITSAP PLANT LABORATORY

OF ANALYSES PERFORMED

	1988	1989	% CHANGE	1990	% CHANGE
SS	2987	3052	+ 2	2786	- 9
BOD	1304	1441	+ 10	1377	- 4
COD	48	98	+104	153	+ 56
pH	3127	2887	- 8	2393	- 17
VA	291	325	+ 12	254	- 22
ALK	458	461	+ 1	380	- 18
COLI	566	622	+ 10	852	+ 37
CL RES	410	387	- 6	632	+ 63
CN	13	13	same	0	-
TKN	40	37	- 8	52	+ 40
NH3-N	138	184	+ 33	490	+ 166
NO3-N	0	51	+100	155	+ 203
O&G	0	32	+100	78	+ 144
SO4	0	42	+100	46	+ 10
CL-	0	47	+100	95	+ 102
METALS	1871	2407	+ 29	2643	+ 10
TOTAL # ANALYSES	13261	13538	+ 2	14489	+ 7

CENTRAL KITSAP WASTEWATER TREATMENT PLANT
LABORATORY FEE SCHEDULE

	TEST	FEE
_____	AMMONIA	15.75
_____	BOD5	10.20
_____	CHLORINE RESIDUAL	6.00
_____	FECAL	10.80
_____	TSS/TVSS (Suspended Solids)	7.80
_____	PH	5.50
_____	METALS (8) - CD, CU, CR, Pb, NI, ZN, Fe, Mn)	52.00
_____	MERCURY (Hg)	18.10
_____	O & G (Gravimetric)	27.70
_____	TKN	22.00
_____	TOTAL PHOSPHORUS	12.80
_____	NITRATE	16.20
_____	COD	11.20
_____	SULFIDE	8.60
_____	SULFATE	7.90
_____	CHLORIDE	8.30
_____	CONDUCTIVITY	8.10
_____	ALKALINITY	5.40
_____	VOLATILE ACID	5.40
_____	MICROSCOPIC EVALUATION/GRAM STAIN	17.00

KITSAP COUNTY PUBLIC WORKS LABORATORY
SAMPLE REQUIREMENTS

ANALYSIS	CONTAINER	PRESEVATIVE	MAXIMUM HOLDING TIMES	MINIMUM SAMPLE VOLUME	MG/L DETECTION LIMIT	EPA METHOD
BOD5, CBOD5	P OR G	COOL, 4 C	48 HOURS	500 ML	2	405.1
COD	P OR G	H2SO4 pH <2	28 DAYS	50 ML	10	HACH
AMMONIA NITROGEN	P OR G	H2SO4 pH <2	28 DAYS	500 ML	0.05	350.3
ACIDS, VOLATILE	P OR G	COOL, 4 C	14 DAYS	500 ML	5	NA
ALKALINITY	P OR G	COOL, 4 C	14 DAYS	100 ML	10	310.1
CHLORIDE	P OR G	NONE REQ'D	28 DAYS	100 ML	0.5	AgNO3
CHLORINE RESIDUAL	P OR G	NONE REQ'D	ANALYZE IMMEDIATELY	200 ML	0.01	330.1
FECAL AND TOTAL COLIFORM	P OR G SAMPLING CONTAINER MUST BE STERILE	COOL, 4 C	6 HOURS	150 ML	2 #/100 ML	MF
HARDNESS	P OR G	H2SO4 pH <2	6 MONTHS	200 ML	10	130.2
pH	P OR G	NONE REQ'D	ANALYZE IMMEDIATELY	100 ML	1 -14 SU	150.1
TOTAL KJELDAHL NITROGEN	P OR G	H2SO4 pH <2	28 DAYS	100 ML	0.5	ISE
AG, CR, CU, CD, NI, PB, FE, ZN, MG	P OR G	HNO3 pH <2	6 MONTHS	500 ML	0.005 - 0.05 DL VARIES WITH EACH METAL	200.0
MERCURY	P OR G	HNO3 pH <2	28 DAYS	200 ML	0.0002	245.1
NO2 + NO3 NITROGEN	P OR G	H2SO4 pH <2	28 DAYS	250 ML	0.05	353.3
OIL & GREASE	G ONLY	H2SO4 pH <2	28 DAYS	1 L	5	413.1
ORTOPHOSPHATE	P OR G	FILTER, COOL 4 C	48 HOURS	500 ML	0.01	365.3
TOTAL PHOSPHORUS	P OR G	H2SO4 pH <2	28 DAYS	500 ML	0.01	365.3
SUSPENDED SOLIDS	P OR G	COOL, 4 C	48 HOURS	200 ML	2	160.2
TOTAL SOLIDS	P OR G	COOL, 4 C	7 DAYS	100 ML	10	160.3
VOLATILE SOLIDS	P OR G	COOL, 4 C	7 DAYS	100 ML	%	160.4
SULFATE	P OR G	COOL, 4 C	28 DAYS	100 ML	1.6	375.4
SULFIDE	P OR G	NONE REQ'D	ANALYZE IMMEDIATELY		0.1	376.2
TURBIDITY	P OR G	COOL, 4 C	48 HOURS	100 ML	0 NTU	180.1

NOTES:
P = POLYETHYLENE G = GLASS H2SO4 = SULFURIC ACID HNO3 = NITRIC ACID 4 C = 4 DEGREES CENTIGRADE
SAMPLE PRESERVATION SHOULD BE PERFORMED IMMEDIATELY UPON SAMPLE COLLECTION

LABORATORY

PUBLIC

WORK SHEET

WORKS

PLANT _____

ANALYZED BY _____

DATE _____

❒ SUSPENDED SOLIDS EPA Method 160.2 **❒ Total Solids EPA Method 160.3**

Sample					
Dish #					
Volume Filtered (ml)					
Wt. of Crucible + Solids (g)					
Wt. of Dry Crucible (g)					
Difference (g)					
(A) Diff. in mg = g × 1000					
(B) 1000 / Vol Filtered (ml)	1000/___ = ___	1000/___ = ___	1000/___ = ___	1000/___ = ___	1000/___ = ___
(A) × (B)	___ mg/l	___ mg/l	___ mg/l	___ mg/l	___ mg/l

VOLATILE SOLIDS EPA Method 160.4

Wt. of Crucible + Dry Solids (g)					
Wt. of Crucible + Ash (g)					
Difference (g)					
(C) Weight Loss (mg) = g × 1000					
(D) 1000 / ml of Sample					
(C) × (D) = MLVSS mg/1					

Control Crucible #_____ IN _____ OUT _____ Difference

SVI Standard Method 213C

Mixed Liquor Settleability (ml) / MLSS (mg/1) × 1000

SVI = _____ × 1000 = _____

_____

LOADING INDEX

Raw BOD × Flow (MGD) / MLVSS × Aerator Vol (MG)

_____ × _____ = _____

×

PUBLIC WORKS

KITSAP COUNTY 18 57 WASHINGTON

BOD5-FECAL COLIFORM LABORATORY WORK SHEET

PLANT _____ DATE _____ ANALYST _____

BOD5
EPA Method 405.1

Date/Time: IN _____ OUT _____

Location	ml sample	1ml Seed Added	Nit. Inhib. Added	Bottle No.	[(In DO-5 Day DO) - Seed depletion] x 300ml / ml Sample = BOD5 mg/l	Avg mg/L
Blank	300ml				_____ - _____ = _____ mg/l Depletion	
					(_____ - _____) x 300ml / _____ ml = _____ mg/l	
					(_____ - _____) x 300ml / _____ ml = _____ mg/l	
					(_____ - _____) x 300ml / _____ ml = _____ mg/l	
					(_____ - _____) x 300ml / _____ ml = _____ mg/l	
					(_____ - _____) x 300ml / _____ ml = _____ mg/l	

$$\%\ \text{BOD REDUCTION} = \frac{\text{BOD RAW} - \text{BOD FINAL}}{\text{BOD RAW}} \times 100$$

$$\frac{(\quad) - (\quad)}{(\quad)} \times 100 = \_\_\_\_\_\ \%$$

Date/Time IN:	FECAL COLIFORM Standard Method 909C	Date/Time OUT:
	Colonies/100ml = Count / ml of Sample x 100	
	FINAL _____ / ml x 100 =	

CENTRAL KITSAP PLANT LABORATORY

PAINT FILTER TEST FOR CK SLUDGE CAKE

DATE	WATER ? Y OR NO	ANALYST

1. PLACE 100 G SLUDGE CAKE INTO FILTER.
2. SET TIMER FOR 5 MINUTES.
3. NOTE YES OR NO IF WATER IS PRESENT IN CYLINDER

METHOD FROM EPA SW-846

PUBLIC WORKS

LABORATORY BENCHSHEET

ANALYSIS FECAL COLIFORM **METHOD** MPN VERIFICATION

DATE _____ **ANALYST** _____

Sample		Colony	Color		Positive in A-1 Media ?			
		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
		10						
		11						
		12						
		13						
		14						
		15						

NOTES:

KITSAP COUNTY PUBLIC WORKS
CENTRAL KITSAP PLANT LABORATORY
FREON - EXTRACTABLE OIL AND GREASE
EPA METHOD 413.1

SAMPLE LOG # _____ ANALYST _____

DATE _____ FLASK # _____

_____ g FINAL FLASK WEIGHT

\- _____ g INITIAL FLASK WEIGHT

_____ g O & G x 1000 = _____ mg

$$\frac{\text{mg O \& G}}{\text{ml sample}} \times \frac{1000 \text{ ml}}{\text{L}} = \boxed{\qquad \text{mg/L O \& G}}$$

- ☐ 5 g Na_2SO_4
- ☐ RINSE W/FREON
- ☐ MARK SAMPLE LEVEL ON SAMPLE CONTAINER
- ☐ ADJUST pH TO <2 WITH HCL (can store for 28 days at this point)
- ☐ POUR SAMPLE INTO 2 L SEPARATORY FUNNEL
- ☐ PLACE TARED FLASK (INITIAL WEIGHT) UNDER FUNNEL

extract w/freon — 1,1,2-trichloro-1,2,2-trifluoroethane

- ☐ 25 ML
- ☐ 25 ML
- ☐ 25 ML

* Add Freon to sample container, rinse, then transfer to sep. funnel. Gently mix 5 minutes each Allow phase separation.

- ☐ EXTRACT EMULSION
- ☐ DISCARD WATER
- ☐ RINSE Na_2SO_4 WITH 25 ML FREON
- ☐ EVAPORATE SAMPLE IN 70 C WATER BATH
- ☐ DRY FOR 15 MINUTES
- ☐ VACUUM FREON FUMES ONE MINUTE
- ☐ COOL IN DESSICATOR ONE HOUR
- ☐ WEIGH FLASK FOR FINAL WEIGHT

PUBLIC WORKS

LABORATORY BENCHSHEET

ANALYSIS FECAL COLIFORM **METHOD** MEMBRANE FILTRATION
STANDARD METHOD 9222 D

DATE _____ **ANALYST** _____

Sample ID	Date	#	ml	#	ml	#	ml	Colonies per 100 ml
Beginning Blank								

NOTES: TIME IN:
TIME OUT:

Form #3

PUBLIC WORKS

LABORATORY BENCHSHEET

ANALYSIS ______________ METHOD ______________

DATE ______________ ANALYST ______________

NOTES:

NEEDS ASSESSMENT QUESTIONNAIRE

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To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Carol N. Spaulding
TITLE : Water Quality Tech III
ADDRESS : Mason County Water Quality
P.O. Box 186
Shelton, WA 98584
PHONE # : 427-9670 Ext 292

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

When the lab is in operation will will analize surface water samples for fecal coliform bacteria via MPN & MF. In the future will hope to be certified to test drinking water samples for Total Coliform bacteria. Also TSS on stream samples -

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Our field people obtain stream & marine samples; drinking water samples will be addressed at a later date.

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

The lab will supply all necessary supplies to field personnel for stream & marine sampling - including sampling bottles, lab slips, transport containers

Describe your laboratory sample tracking system.

Field personnel will collect and deliver samples directly from the field stations to the lab.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

not as yet.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate? Questionable

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.
Since we are not operational as yet - the following is an estimate.
MPN - A-1 - waterbath can hold 24 samples
The dry incubator is large with 2 separate compartments & should be able to accomodate drinking water samples as well as surface water samples during their resuscitation during our peak wet weather monitoring Dec - march

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?
100% for Fecal coliform for stream & marine
future 100% drinking water samples

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?
I believe an outside laboratory must confirm a labs work annually.

What percentage of your work is contracted out?
Previously 100%

What types of work do you usually contract out?
In '92 we plan to organize a lake monitoring program & will have to contract out sample analyses for total Nitrogen, total phosphorous and Chlorophyll-a

Please describe your procedure for utilizing outside laboratory services.
for the lake monitoring project we have contacted Aquatic Research Inc They supply sample bottles via Greyhound bus, we collect the samples & send them back via Greyhound bus from olympia.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

Previously we sent samples to Kitsap environmental Health lab & Thurston County Environmental Health lab.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? yes

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We will submit requests for additional facilities to the Mason County Board of Commissioners.

V. DATA MANAGEMENT

Please describe your analytical data management system.

All data is recorded on paper, entered into a database and verified with hard copy

Where and how is your data stored?

laboratory records in bound & 3 ring binders and computer disk

How is your data used?

To determine trends in water quality in the environment & identify pollution sources.

How is your data archived?

computer disk

Who do you share your data with?

DOH & DOE, PSWQA, Public

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

NO; we use parador software

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Physical size of the lab. limits the number of technician to work in lab.

What can, or should, be done to remove these impediments?

Future expansion

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM _____

		FY92	FY93
PHYSICAL CHEMISTRY	pH		
	TURBIDITY		
	SP CONDUCTANCE		
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS		
	TOTAL		

		FY92	FY93
ANIONS	CHLORIDE		
	FLUORIDE		
	CYANIDE		
	SULFATE		
	TOTAL		

		FY92	FY93
NUTRIENTS	AMMONIA		
	NITRATE		
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE	✓	✓
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN	✓	✓
	TOTAL		

		FY92	FY93
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		

		FY92	FY93
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL	✓	✓
	COLOR		
	GRAIN SIZE		
	TOTAL		

		FY92	FY93
MICRO.	COLIFORM		
	ENTEROCOCCI		
	% KLEB		
	TOTAL		

		FY92	FY93
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP.		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP.		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		

		FY92	FY93
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		

		FY92	FY93
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		

TOTAL SAMPLES		

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Kevin Barry
TITLE : Environmental Health Director
ADDRESS : San Juan Co Health Dept
PO Box 607
Friday Harbor WA 98250
PHONE # : (206) 378-4474

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

No Lab

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

NA

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

NA

Describe your laboratory sample tracking system.

NA

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

NA

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

NA

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

No Lab. We very much need A water lab, capable of bacteriological, Nitrate, Chloride & specific conductivity as minimum.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house? 0

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services? Most water samples Are sent to SKAGIT Co Health Dept for BACT., State Public Health Lab or Labels for chemical.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? There is A crying need for A laboratory here, which is exascerbated by the new Safe Drinking Water Act standards, which require increased monitoring.

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

We Are proposing A lab in our 1992 budget proposal. This is unlikely to be Approved,

V. DATA MANAGEMENT NA

Please describe your analytical data management system.

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

There is no lab in the islands. Use of mainland labs is greatly hampered by transportation problems.

What can, or should, be done to remove these impediments?

Build a lab in Friday Harbor.

DEPARTMENT OF ECOLOGY
PROJECTED ANALYTICAL NEEDS
BY PARAMETER

PROGRAM San Juan Co Drinking Water

		FY92	FY93
PHYSICAL CHEMISTRY	pH		
	TURBIDITY	100	100
	SP CONDUCTANCE	100	100
	SALINITY		
	ALKALINITY		
	ACIDITY		
	HARDNESS		
	SOLIDS (4)		
	TS		
	TSS	100	100
	TOTAL		
ANIONS	CHLORIDE	300	300
	FLUORIDE	100	100
	CYANIDE		
	SULFATE	100	50/100
	TOTAL		
NUTRIENTS	AMMONIA		
	NITRATE	100	100
	NITRITE		
	NUTRIENTS (3)		
	NITRATE-NITRITE		
	TOTAL PHOSPHATE		
	ORTHO PHOSPHATE		
	NUTRIENTS (5)		
	NITROGEN-TPN		
	TOTAL		
SPECIAL AIR	AIR FILTERS		
	ASBESTOS		
	TOTAL		

		FY92	FY93
DEMAND	BOD		
	BOD 20		
	COD		
	TOC		
	TOTAL		
MISC.	OIL& GREASE		
	PHENOLICS		
	CHLOROPHYLL		
	COLOR		
	GRAIN SIZE		
	TOTAL		
MICRO.	COLIFORM	1000	1000
	ENTEROCOCCI		
	% KLEB		
	TOTAL		
BIOASSAY	EFFLUENT ACUTE TESTS		
	SALMONID		
	MICROTOX		
	HYALLELA		
	DAPHNIA SP		
	ECHINODERM SPERM CELL		
	BIVALVE LARVAE		
	CHRONIC TESTS		
	DAPHNIA SP		
	CERIODAPHNIA		
	SEDIMENT TESTS		
	MARINE AMPHIPOD		
	RHEPOXYNIUS		
	FRESHWATER AMPHIPOD		
	HYALLELA		
	DAPHNIA MAGNA		
	MICROTOX		
	TOTAL		

		FY92	FY93
METALS	METALS/ELEMENT		
	METALS (6)		
	ICP SCAN		
	MERCURY		
	HEX CHROMIUM		
	PRIORITY POLLUTANT		
	TCLP		
	TOTAL		
ORGANICS	BNA		
	VOA		
	HERBICIDE		
	PESTICIDE		
	ORGANOPHOS PEST		
	TRI-BUTYL TIN		
	RESIN/FATTY ACID		
	GUAIACOL/CATECHOL		
	PCB		
	BTEX/HALOGENATED		
	PAH ONLY		
	HYDROCARBON ID/TPH		
	NON PP COMPOUNDS		
	ORGANIC SCREEN		
	% LIPIDS		
	TOTAL		
HW DESIG.	TOX		
	PAH		
	NH		
	IGNITABILITY		
	SALMONID		
	NPDES		
	RAT		
	TOTAL		
	TOTAL SAMPLES		

NEEDS ASSESSMENT QUESTIONNAIRE

An important element of the Department of Ecology's mission is to strive to address diverse environmental issues. An important issue is the question of laboratory services necessary to monitor our environment. Are existing environmental laboratory facilities adequate and is there a need to expand existing laboratory facilities to meet future needs?

To try to answer these questions the Department of Ecology is preparing a laboratory needs assessment that addresses the short- and long-term needs, capacity, and data management of tribal and local governments. The needs assessment will be used to assess current and future laboratory needs and how or if they are being met.

Please be as complete as possible in answering this questionnaire. Use continuation sheets on any question that may require additional space for a complete answer.

If your organization has a laboratory please complete ~~sections I, II, IV, V, and VI of the~~ questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, ~~Department of~~ Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : JIM FREEMAN
TITLE : SENIOR WATERSHED PLANNER
ADDRESS : SKAGIT COUNTY DEPT. OF PLANNING & COMM. DEV.
CO. ADMIN. BLDG, ROOM 204
700 S. 2ND ST.
MT VERNON WA 98273
PHONE # : (206) 336-9410

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

NONE

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services?

THE SKAGIT COUNTY DEPT. OF PLANNING AND COMMUNITY DEVELOPMENT HAS NOT PARTICIPATED IN ANY WQ SAMPLING ACTIVITIES TO DATE. HOWEVER, WE ARE STARTING TO IMPLEMENT A SAMPLING PROGRAM FOR THE LOWER SKAGIT RIVER

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs?

YES! LOGISTICAL PROBLEMS CAN OFTEN RESULT WHEN TESTING TIME SENSITIVE SAMPLES IN No. PUGET SOUND

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

THERE ARE MANY OPTIONS:

(1) REQUIRE HEALTH DEPARTMENTS AND DISTRICTS TO BECOME ACREDITED FOR TESTING SAMPLES FOR CONVENTIONAL POLLUTANTS

(2) ASSIST TRIBES ~~EE~~ IN THEIR EFFORTS TO USE EPA $ FOR ESTABLISHING WQ PROGRAMS TO ENCOURAGE ~~EEE~~ SETTING UP SELF SUFFICIENT LABS WHICH COULD BE UTILIZED BY LOCAL GOVTS LIKE ANY PRIVATE LAB.

(3) HAVE DOE OPEN UP LAB IN No. PUGET SOUND (SPLIT MANCHESTER ?)

V. DATA MANAGEMENT

Please describe your analytical data management system.

NO SYSTEM AT THIS TIME (NO DATA TO MANAGE AS OF YET)

Where and how is your data stored?

How is your data used?

How is your data archived?

Who do you share your data with?

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

ANTICIPATED PROBLEMS INCLUDE:
① ACQUIRING SUITABLE DATABASE SOFTWARE FOR ANALYSIS, COMPATIBILITY W/ STORET, AND PROPER MANAGEMENT
② HAVING ADEQUATE STAFF TO MANAGE & MAINTAIN DATABASE

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

LOGISTICS OF GETTING SAMPLES TO AN ACCREDITED LAB IN A TIMELY & COST EFFECTIVE MANNER.
LABS ARE LACKING IN NORTH PUGET SOUND.

What can, or should, be done to remove these impediments?

NEEDS ASSESSMENT QUESTIONNAIRE

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If your organization has a laboratory please complete sections I, II, IV, V, and VI of the questionnaire.

If your organization does not have a laboratory, please complete sections III, IV, V, and VI of the questionnaire.

Please direct any questions regarding this questionnaire to Dick Schroeder, Department of Ecology, 206-586-5057.

PERSON COMPLETING QUESTIONNAIRE

NAME : Frank Scherf / Snohomish County Planning Dept.
TITLE : Biologist / Water Resources
ADDRESS : 3000 Rockefeller Ave.
Everett, WA. 98201
PHONE # : (206) 388-3508

* Questionnaire is not relevant since our laboratory needs are incidental

I. CURRENT LABORATORY CAPABILITIES

Describe the services your laboratory offers to your clients:

Does your laboratory offer courier service to facilitate the delivery of samples and analysis requests to the laboratory? If not, how are samples delivered to your laboratory?

Does your laboratory provide supplies, such as sample containers, chemicals, and analysis request forms, to the field people? Describe what supplies you provide.

Describe your laboratory sample tracking system.

Do you have documented chain of custody requirements to protect sample integrity? Please describe.

Please provide a copy of your laboratory holding times, target turnaround times and laboratory price list.

II. CURRENT LABORATORY CAPACITY

Is your current laboratory capacity adequate?

Please describe your laboratory capacity: number of staff, number of analyses preformed, maximum number of analyses your laboratory can perform, etc.

Please provide information on numbers of samples, matrices, and analyses requested (annual estimates) by completing the enclosed table.

What percentage of your organization's laboratory work is completed in house?

Do you use outside laboratories to confirm your work or perform work beyond your laboratory's capacity?

What percentage of your work is contracted out?

What types of work do you usually contract out?

Please describe your procedure for utilizing outside laboratory services.

Describe any laboratory work you do for other organizations on a Fee for Service basis.

How do you charge your clients for the cost of an analysis?

III. MEETING CURRENT DEMANDS

If your organization does not have a laboratory, how do you currently meet your needs for analytical services? Currently our needs for analytical services are provided by independent laboratories. Overall, if we suspect a water quality problem your Department is contacted - either through the Health Districts or directly.

IV. FUTURE LABORATORY NEEDS FOR NEXT TWO YEARS

Given sampling rules and requirements currently on the books, do you feel there is a need to establish or expand laboratory capacity to meet future needs? I suspect that given future needs, expansion of laboratory capacity would be a prudent measure

Describe how you propose to meet future demands for analytical services -- establish laboratory, additional staff, utilize outside laboratories, etc.

Future needs will be met as presently dealt with - independent laboratories.

V. DATA MANAGEMENT

Please describe your analytical data management system.

Our data base system is set up for tracking land use subdivision information, as opposed to analytical laboratory information. Also streams and wetland inventory information.

Where and how is your data stored?

Our data is stored on PC's & small Ware II data management system.

How is your data used?

Primarily to keep track of subdivision land use requests & biological info needs

How is your data archived?

Hard filed

Who do you share your data with?

Anyone wishing our information

Do you experience any difficulty storing, analyzing, or accessing data? If so, what problems do you face?

Not any more

VI. IMPEDIMENTS TO QUALITY LABORATORY SERVICE

What impediments, if any, do you see to receiving or providing quality laboratory service?

Funding

What can, or should, be done to remove these impediments?

If the need arises then funding will have to be provided